



8165 E Kaiser Blvd. Anaheim, CA 92808
p. 714.282.2270
f. 714.676.5558

Report No: L091603904

Date: 9/29/2016



NVLAP LAB CODE 200927-0

Report No: L091603904

Report Prepared For: Leotek Electronics USA, LLC
1955 Lundy Ave, San Jose, 95131

Model Number: GCJ2-20H-MV-CW-4-XX-1A

Test: Electrical and Photometric tests

Standards Used: Appropriate part or all test guidelines were used for test performed:
IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products
ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Catalog number is GCJ2-20H-MV-CW-4-XX-1A . Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 9/12/16

Date of Tests: 9/28/16 - 9/28/16

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S1	11/18/16
Xitron Power Analyzer	2503AH	MT-EL01	11/30/16
ITECH DC Power Supply	IT6122	PSDC-03-S1	11/17/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/24/16
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Summary

Manufacturer:	Leotek Electronics USA, LLC	
Model Number:	GCJ2-20H-MV-CW-4-XX-1A	
Driver Model Number:	PHILIPS ADVANCE XI075C105V070CNY2	
Total Lumens:	7665.60	
Input Voltage (VAC/60Hz):	120.00	
Input Current (Amp):	0.57	
Input Power (W):	68.18	
Input Power Factor:	1.00	
Current ATHD @ 120V(%):	5%	
Current ATHD @ 277V(%):	7% (0.24A, 67.13W, 0.99PF)	
Efficacy:	112	
Color Rendering Index (CRI):	73	
Correlated Color Temperature (K):	4919	
Chromaticity Coordinate x:	0.3479	
Chromaticity Coordinate y:	0.3583	
Ambient Temperature (°C):	25.0	
Stabilization Time (Hours):	0:35	
Total Operating Time (Hours):	5:35	
Off State Power(W):	0.00	

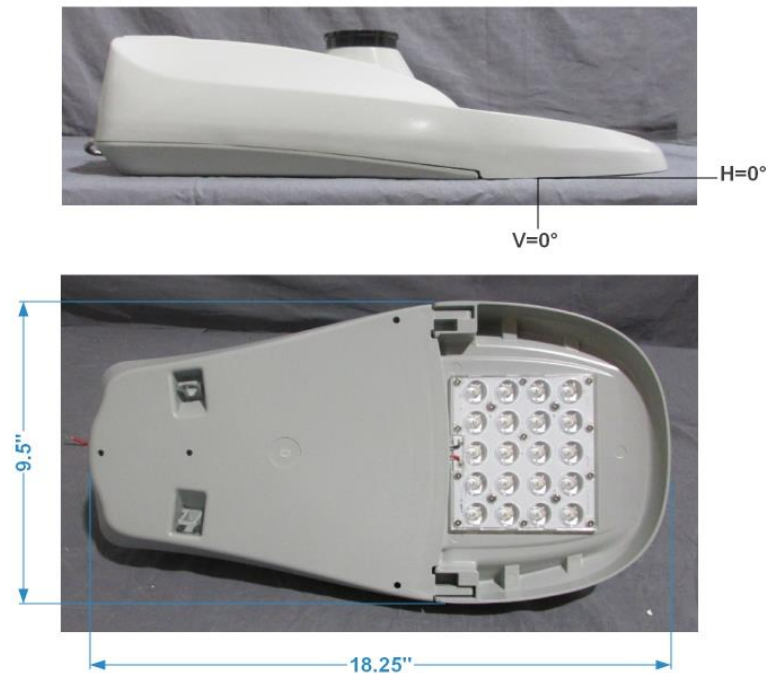
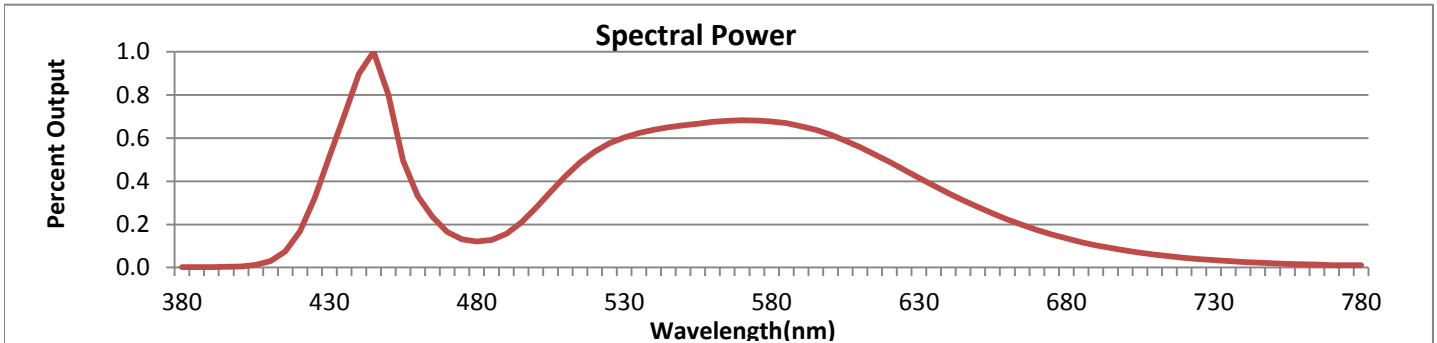


FIG. 1 LUMINAIRE



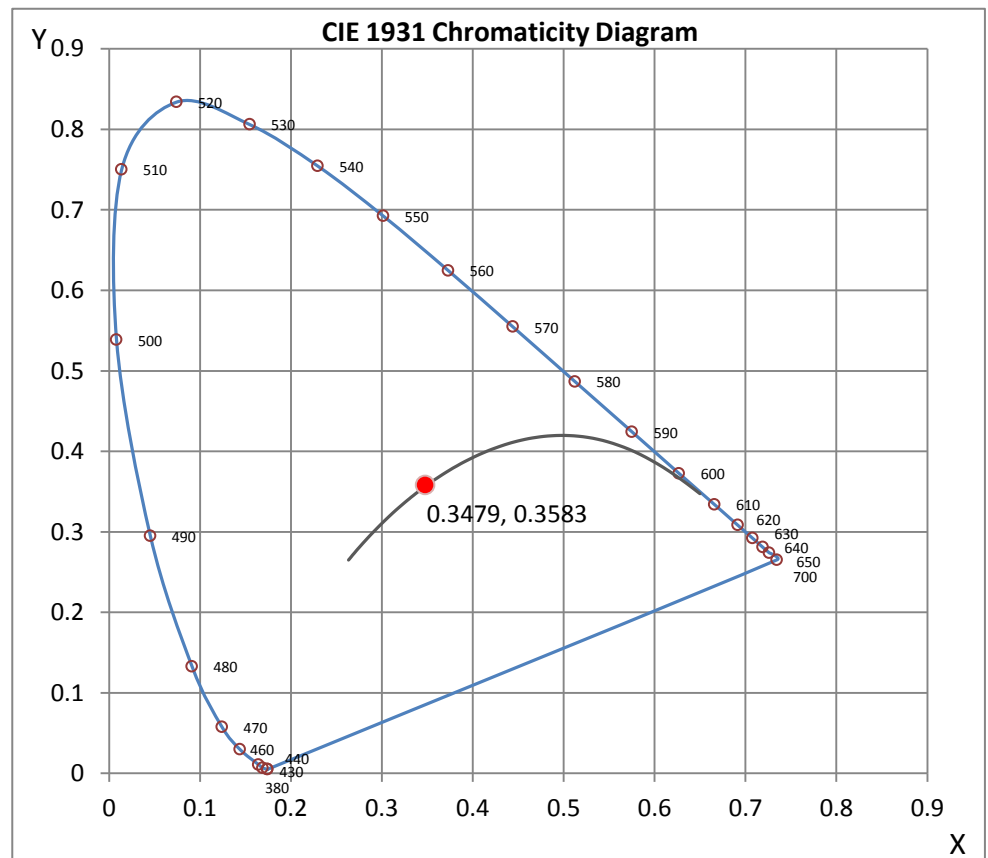
Wavelength	W/m ² nm	440	0.8986	510	0.4231	580	0.6768	650	0.2807	720	0.0454
380	0.0013	450	0.8018	520	0.5377	590	0.6556	660	0.2235	730	0.0343
390	0.0020	460	0.3311	530	0.6036	600	0.6161	670	0.1747	740	0.0260
400	0.0055	470	0.1653	540	0.6387	610	0.5577	680	0.1352	750	0.0197
410	0.0303	480	0.1214	550	0.6596	620	0.4899	690	0.1036	760	0.0151
420	0.1678	490	0.1568	560	0.6750	630	0.4159	700	0.0789	770	0.0115
430	0.5153	500	0.2758	570	0.6825	640	0.3452	710	0.0596	780	0.0102

CRI & CCT

x	0.3479
y	0.3583
u'	0.2107
v'	0.4883
CRI	72.90
CCT	4919
Duv	0.00223

R Values

R1	71.41
R2	76.26
R3	80.08
R4	74.68
R5	71.74
R6	67.97
R7	80.51
R8	60.44
R9	-18.67
R10	43.87
R11	73.11
R12	47.27
R13	71.29
R14	88.28





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Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : JEFF AHN

Test Report Released by:

Jeff Ahn
Engineering Manager

Test Report Reviewed by:

Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 24*

**All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.*



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Photometric Test Report

IES ROAD REPORT

PHOTOMETRIC FILENAME : L091603904.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L091603904
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 9/29/2016
[MANUFAC] Leotek Electronics USA, LLC
[LUMCAT] GCJ2-20H-MV-CW-4-XX-1A
[LUMINAIRE] 18.25"L. X 9.5"W. X 4.5"H. LED STREET LIGHT
[BALLASTCAT] PHILIPS ADVANCE XI075C105V070CNY2
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[_INPUT] 120VAC, 68.18W
[_TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

IES Classification	Type IV
Longitudinal Classification	Medium
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7666
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	68.18
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	4256
Maximum Candela Angle	80H 70.5V
Maximum Candela (<90 Degrees Vertical)	4256
Maximum Candela Angle (<90 Degrees Vertical)	80H 70.5V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	336 (4.4% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

IES ROAD REPORT
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LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	742.5	N.A.	9.7
FM - Front-Medium (30-60)	2025.7	N.A.	26.4
FH - Front-High (60-80)	2020.0	N.A.	26.4
FVH - Front-Very High (80-90)	25.2	N.A.	0.3
BL - Back-Low (0-30)	643.1	N.A.	8.4
BM - Back-Medium (30-60)	1628.7	N.A.	21.2
BH - Back-High (60-80)	568.9	N.A.	7.4
BVH - Back-Very High (80-90)	11.5	N.A.	0.2
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	7665.6	N.A.	100.0
BUG Rating	B2-U0-G2		

ZONAL LUMEN SUMMARY

Zone	%
0-20	7.9
0-30	18.1
0-40	32.3
0-60	65.7
0-80	99.5
0-90	100
10-90	98
20-40	24.4
20-50	40.8
40-70	52.5
60-80	33.8
70-80	14.7
80-90	0.5
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

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CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0.0	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578
0.5	1580	1580	1580	1580	1580	1580	1580	1580	1579	1579
1.0	1582	1583	1582	1582	1582	1582	1582	1582	1581	1580
1.5	1585	1585	1585	1584	1585	1585	1585	1584	1583	1581
2.0	1588	1589	1588	1587	1587	1588	1588	1587	1584	1582
2.5	1591	1592	1591	1590	1590	1591	1591	1589	1587	1584
3.0	1594	1595	1594	1593	1593	1593	1593	1592	1589	1586
3.5	1598	1599	1598	1597	1597	1596	1595	1594	1591	1588
4.0	1601	1603	1602	1601	1600	1599	1598	1596	1594	1590
4.5	1605	1606	1605	1605	1604	1602	1601	1599	1596	1593
5.0	1610	1611	1610	1608	1607	1605	1604	1602	1599	1596
5.5	1614	1615	1614	1612	1611	1609	1608	1605	1603	1599
6.0	1619	1619	1618	1616	1615	1613	1612	1609	1606	1602
6.5	1623	1624	1623	1620	1619	1617	1616	1613	1610	1605
7.0	1628	1629	1627	1624	1623	1622	1621	1617	1614	1609
7.5	1633	1633	1632	1628	1627	1627	1625	1622	1618	1613
8.0	1638	1638	1636	1633	1633	1632	1631	1627	1623	1617
8.5	1642	1643	1641	1638	1638	1637	1636	1633	1629	1622
9.0	1647	1648	1646	1643	1644	1642	1641	1639	1634	1627
9.5	1652	1654	1651	1649	1650	1648	1647	1645	1640	1633
10.0	1657	1659	1656	1654	1656	1654	1653	1651	1646	1638
10.5	1662	1664	1661	1660	1661	1660	1660	1657	1652	1644
11.0	1667	1669	1666	1666	1667	1667	1666	1664	1658	1650
11.5	1672	1675	1671	1671	1673	1674	1673	1670	1665	1656
12.0	1678	1680	1676	1677	1679	1680	1680	1677	1671	1662
12.5	1683	1685	1682	1683	1685	1687	1686	1684	1678	1669
13.0	1688	1691	1687	1689	1691	1693	1693	1691	1685	1676
13.5	1694	1696	1692	1694	1697	1699	1699	1697	1692	1683
14.0	1699	1701	1698	1700	1703	1705	1705	1704	1699	1691
14.5	1705	1706	1703	1706	1710	1711	1711	1710	1706	1698
15.0	1710	1711	1709	1711	1716	1717	1717	1717	1713	1706
15.5	1715	1716	1714	1717	1722	1723	1723	1723	1720	1713
16.0	1719	1721	1720	1722	1727	1728	1729	1730	1727	1720
16.5	1724	1725	1725	1727	1733	1734	1735	1736	1734	1727
17.0	1728	1730	1731	1733	1739	1740	1740	1742	1741	1733
17.5	1733	1735	1736	1738	1745	1745	1746	1749	1748	1740
18.0	1738	1739	1741	1744	1750	1751	1753	1756	1754	1747
18.5	1743	1744	1746	1749	1756	1757	1759	1763	1761	1754
19.0	1748	1749	1751	1755	1761	1763	1766	1770	1768	1760
19.5	1753	1754	1756	1760	1766	1769	1772	1778	1774	1767
20.0	1758	1759	1761	1766	1772	1775	1779	1785	1781	1773
20.5	1763	1764	1767	1771	1778	1781	1786	1792	1788	1780
21.0	1768	1770	1772	1776	1784	1787	1793	1799	1795	1787
21.5	1773	1776	1778	1782	1790	1794	1801	1806	1803	1794
22.0	1778	1781	1784	1787	1795	1800	1808	1813	1810	1800
22.5	1783	1786	1789	1793	1802	1807	1815	1821	1818	1807
23.0	1787	1791	1795	1798	1808	1814	1823	1829	1825	1814
23.5	1791	1796	1800	1804	1815	1822	1831	1837	1833	1820
24.0	1795	1801	1805	1810	1821	1830	1839	1845	1841	1827
24.5	1799	1805	1810	1816	1828	1838	1847	1854	1849	1834
25.0	1803	1808	1815	1821	1834	1846	1856	1863	1857	1841
25.5	1805	1811	1819	1827	1841	1854	1865	1872	1866	1849
26.0	1808	1814	1822	1832	1847	1862	1874	1882	1876	1858

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CANDELA TABULATION - (Cont.)

26.5	1810	1816	1826	1836	1854	1870	1884	1892	1885	1866
27.0	1811	1818	1829	1841	1860	1878	1893	1901	1895	1874
27.5	1812	1819	1831	1845	1866	1886	1903	1911	1904	1883
28.0	1812	1820	1833	1848	1871	1893	1912	1922	1914	1891
28.5	1812	1820	1833	1850	1876	1901	1921	1932	1924	1899
29.0	1811	1820	1834	1851	1881	1907	1930	1942	1934	1907
29.5	1809	1819	1833	1852	1885	1914	1938	1952	1944	1915
30.0	1806	1817	1832	1852	1888	1919	1946	1961	1954	1923
30.5	1802	1813	1828	1850	1888	1923	1952	1969	1963	1932
31.0	1797	1808	1823	1846	1887	1926	1957	1976	1972	1940
31.5	1791	1802	1817	1842	1886	1928	1961	1983	1981	1948
32.0	1785	1796	1811	1837	1884	1929	1965	1989	1989	1957
32.5	1779	1790	1805	1832	1880	1930	1968	1995	1996	1965
33.0	1772	1783	1799	1827	1876	1928	1970	2000	2003	1974
33.5	1766	1776	1792	1821	1870	1926	1971	2004	2009	1982
34.0	1759	1768	1785	1816	1865	1923	1972	2008	2015	1990
34.5	1752	1761	1779	1810	1858	1920	1972	2012	2021	1998
35.0	1746	1754	1772	1803	1852	1916	1972	2015	2027	2006
35.5	1740	1748	1766	1797	1848	1912	1972	2019	2032	2014
36.0	1735	1743	1760	1790	1843	1908	1971	2021	2038	2021
36.5	1730	1738	1753	1783	1839	1903	1970	2024	2044	2028
37.0	1724	1732	1746	1776	1833	1898	1968	2026	2048	2034
37.5	1718	1725	1739	1768	1827	1892	1966	2027	2053	2039
38.0	1710	1717	1731	1759	1819	1887	1964	2028	2056	2041
38.5	1702	1709	1721	1749	1809	1882	1962	2028	2058	2042
39.0	1693	1699	1712	1738	1799	1876	1959	2028	2059	2042
39.5	1683	1689	1701	1727	1787	1869	1955	2026	2059	2042
40.0	1672	1678	1689	1714	1775	1861	1950	2023	2057	2039
40.5	1658	1663	1675	1700	1759	1848	1943	2017	2050	2033
41.0	1642	1647	1659	1685	1741	1834	1934	2008	2041	2025
41.5	1626	1630	1643	1669	1723	1819	1925	1999	2030	2017
42.0	1609	1613	1626	1652	1705	1803	1914	1990	2020	2008
42.5	1591	1595	1608	1635	1686	1787	1902	1979	2009	1999
43.0	1571	1575	1589	1616	1666	1769	1887	1967	2000	1990
43.5	1551	1555	1569	1597	1646	1751	1870	1955	1991	1981
44.0	1531	1534	1549	1577	1626	1732	1852	1942	1982	1972
44.5	1510	1514	1529	1558	1606	1713	1834	1928	1973	1962
45.0	1491	1495	1510	1538	1587	1693	1814	1914	1964	1953
45.5	1474	1478	1492	1520	1568	1672	1792	1900	1955	1944
46.0	1458	1462	1475	1502	1551	1651	1769	1886	1946	1934
46.5	1442	1446	1458	1484	1533	1629	1746	1871	1937	1925
47.0	1427	1431	1442	1467	1516	1608	1723	1856	1928	1916
47.5	1412	1416	1426	1450	1499	1587	1701	1841	1919	1908
48.0	1398	1402	1412	1435	1484	1568	1682	1823	1909	1902
48.5	1384	1388	1399	1420	1470	1549	1664	1805	1900	1896
49.0	1371	1375	1386	1407	1456	1531	1647	1787	1891	1891
49.5	1359	1362	1373	1393	1442	1514	1630	1770	1882	1886
50.0	1347	1350	1361	1381	1429	1497	1613	1753	1874	1882
50.5	1337	1340	1351	1370	1416	1483	1597	1739	1865	1878
51.0	1328	1330	1341	1360	1403	1469	1580	1725	1856	1876
51.5	1320	1322	1331	1351	1391	1457	1565	1713	1848	1873
52.0	1311	1313	1322	1341	1379	1445	1550	1701	1839	1871
52.5	1303	1304	1313	1332	1368	1433	1536	1689	1831	1868
53.0	1293	1294	1303	1323	1357	1423	1525	1678	1822	1865
53.5	1283	1284	1294	1313	1347	1414	1516	1667	1813	1861
54.0	1273	1275	1285	1304	1338	1405	1508	1657	1804	1857

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CANDELA TABULATION - (Cont.)

54.5	1265	1266	1276	1296	1329	1397	1500	1647	1795	1854
55.0	1257	1259	1269	1289	1322	1390	1493	1639	1787	1850
55.5	1253	1255	1265	1284	1316	1384	1486	1632	1781	1847
56.0	1250	1253	1262	1281	1312	1379	1480	1625	1775	1844
56.5	1250	1253	1261	1279	1309	1375	1476	1617	1770	1841
57.0	1251	1253	1262	1277	1308	1372	1473	1609	1765	1839
57.5	1252	1255	1264	1276	1308	1370	1472	1604	1760	1837
58.0	1255	1257	1266	1276	1308	1369	1471	1601	1755	1835
58.5	1257	1259	1269	1278	1309	1368	1469	1597	1752	1834
59.0	1260	1263	1272	1281	1310	1369	1467	1594	1749	1834
59.5	1264	1266	1276	1284	1314	1372	1465	1594	1748	1834
60.0	1268	1271	1280	1288	1319	1376	1465	1595	1748	1835
60.5	1275	1277	1285	1293	1325	1381	1468	1601	1750	1837
61.0	1283	1285	1291	1300	1332	1387	1473	1608	1753	1840
61.5	1294	1296	1300	1310	1340	1394	1480	1613	1757	1845
62.0	1309	1312	1313	1322	1350	1403	1487	1619	1762	1850
62.5	1332	1335	1332	1338	1366	1415	1497	1625	1770	1859
63.0	1360	1363	1355	1359	1385	1429	1510	1635	1779	1869
63.5	1391	1395	1384	1387	1411	1451	1528	1648	1787	1881
64.0	1428	1431	1419	1419	1441	1477	1549	1665	1799	1895
64.5	1479	1479	1462	1460	1478	1510	1576	1684	1818	1915
65.0	1540	1535	1513	1508	1521	1548	1607	1707	1843	1937
65.5	1620	1609	1585	1572	1577	1597	1649	1742	1872	1966
66.0	1705	1688	1664	1644	1639	1652	1696	1783	1906	2000
66.5	1791	1771	1746	1724	1713	1717	1750	1832	1950	2043
67.0	1879	1856	1831	1808	1793	1788	1811	1885	1999	2090
67.5	1972	1949	1925	1900	1881	1872	1884	1945	2054	2144
68.0	2066	2044	2020	1994	1973	1961	1964	2011	2115	2204
68.5	2156	2137	2112	2089	2072	2055	2054	2092	2186	2274
69.0	2247	2232	2206	2185	2173	2153	2150	2180	2265	2351
69.5	2351	2338	2313	2293	2281	2264	2256	2281	2358	2442
70.0	2451	2440	2419	2401	2390	2378	2367	2388	2459	2542
70.5	2537	2529	2516	2511	2504	2494	2483	2503	2573	2661
71.0	2607	2601	2599	2608	2612	2608	2601	2621	2693	2789
71.5	2648	2641	2646	2671	2704	2723	2727	2754	2833	2943
72.0	2665	2658	2669	2710	2773	2818	2839	2879	2971	3094
72.5	2641	2636	2655	2705	2785	2854	2910	2979	3101	3224
73.0	2588	2587	2615	2673	2766	2856	2947	3048	3201	3318
73.5	2493	2497	2532	2608	2706	2812	2916	3047	3219	3311
74.0	2365	2374	2424	2519	2621	2738	2847	3004	3182	3250
74.5	2180	2200	2287	2405	2507	2622	2727	2887	3038	3099
75.0	1949	1979	2107	2251	2363	2478	2578	2730	2841	2909
75.5	1605	1646	1798	1989	2163	2297	2394	2517	2572	2687
76.0	1234	1281	1453	1688	1922	2084	2186	2274	2282	2445
76.5	860	906	1097	1349	1581	1806	1942	1990	2008	2180
77.0	526	566	760	1014	1229	1504	1674	1692	1737	1902
77.5	352	375	510	735	927	1172	1351	1391	1479	1611
78.0	236	242	312	495	660	853	1026	1095	1221	1316
78.5	175	179	231	352	475	615	741	827	950	1018
79.0	138	142	184	247	331	420	494	588	693	738
79.5	112	115	141	185	246	303	348	422	496	516
80.0	94	95	107	143	186	218	244	293	335	336
80.5	78	78	85	112	145	166	183	218	247	243
81.0	66	65	69	89	115	130	141	166	185	182
81.5	57	57	59	73	93	104	112	127	138	138
82.0	52	52	53	62	78	85	92	98	103	106

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82.5	49	48	49	54	66	72	77	76	76	82
83.0	43	43	43	46	55	59	63	59	57	63
83.5	39	38	38	40	46	49	51	47	44	48
84.0	35	35	35	36	40	41	43	38	36	37
84.5	32	32	32	33	35	36	36	33	31	30
85.0	31	31	31	31	32	32	32	29	28	26
85.5	29	29	29	29	29	29	28	26	24	22
86.0	27	27	27	27	26	26	25	23	21	20
86.5	26	26	26	25	25	24	23	21	20	19
87.0	25	25	25	24	24	23	22	21	19	19
87.5	23	23	23	23	22	22	21	20	19	19
88.0	20	20	20	19	19	18	17	17	16	16
88.5	15	15	15	15	15	14	14	13	13	13
89.0	11	11	11	11	11	10	10	10	9	9
89.5	6	6	6	6	6	6	6	6	5	6
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles									
	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>
0.0	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578
0.5	1579	1578	1578	1577	1577	1577	1577	1577	1577	1576
1.0	1579	1578	1577	1576	1576	1576	1576	1575	1575	1574
1.5	1580	1578	1577	1576	1575	1576	1575	1574	1574	1572
2.0	1581	1579	1577	1575	1574	1575	1574	1573	1573	1570
2.5	1583	1579	1577	1575	1573	1575	1573	1572	1572	1569
3.0	1584	1581	1578	1576	1574	1575	1574	1572	1571	1568
3.5	1586	1582	1580	1577	1575	1576	1575	1572	1572	1568
4.0	1588	1584	1582	1579	1577	1577	1575	1573	1572	1568
4.5	1591	1586	1584	1581	1579	1579	1577	1574	1573	1568
5.0	1593	1589	1586	1583	1580	1580	1578	1575	1573	1569
5.5	1596	1592	1588	1585	1582	1582	1579	1575	1574	1569
6.0	1599	1594	1591	1588	1585	1583	1581	1577	1575	1570
6.5	1603	1598	1594	1590	1587	1585	1582	1578	1576	1570
7.0	1606	1601	1597	1593	1589	1588	1584	1579	1577	1571
7.5	1610	1604	1600	1596	1592	1590	1586	1581	1578	1572
8.0	1614	1608	1603	1599	1595	1593	1589	1583	1580	1574
8.5	1618	1612	1607	1602	1598	1595	1591	1585	1583	1576
9.0	1623	1616	1610	1606	1601	1599	1594	1588	1585	1578
9.5	1627	1620	1614	1609	1604	1602	1598	1591	1588	1581
10.0	1632	1625	1619	1613	1608	1606	1601	1595	1591	1583
10.5	1638	1630	1624	1618	1613	1610	1605	1598	1595	1586
11.0	1644	1636	1629	1624	1618	1615	1610	1603	1598	1590
11.5	1650	1642	1635	1629	1623	1620	1615	1607	1602	1593
12.0	1656	1648	1641	1635	1629	1625	1620	1612	1607	1597
12.5	1663	1654	1646	1641	1634	1631	1625	1617	1611	1601
13.0	1670	1660	1652	1646	1639	1636	1630	1622	1616	1606
13.5	1677	1666	1658	1651	1644	1641	1635	1628	1622	1611
14.0	1684	1672	1663	1656	1649	1646	1641	1634	1627	1616
14.5	1691	1679	1669	1661	1654	1652	1647	1640	1633	1622
15.0	1698	1686	1675	1667	1659	1658	1653	1646	1640	1628
15.5	1705	1692	1682	1674	1666	1664	1660	1653	1647	1634
16.0	1712	1699	1689	1681	1673	1671	1667	1661	1654	1640
16.5	1719	1706	1696	1688	1680	1678	1675	1669	1662	1647
17.0	1726	1713	1703	1695	1687	1686	1683	1677	1670	1654
17.5	1733	1720	1710	1702	1695	1694	1691	1685	1678	1662

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18.0	1740	1728	1718	1709	1702	1702	1700	1695	1688	1670
18.5	1747	1735	1725	1717	1710	1711	1710	1705	1697	1679
19.0	1754	1742	1732	1724	1718	1720	1719	1715	1707	1688
19.5	1760	1749	1739	1732	1726	1729	1729	1725	1718	1697
20.0	1767	1756	1746	1739	1734	1738	1739	1736	1728	1707
20.5	1773	1762	1753	1746	1742	1747	1749	1747	1740	1717
21.0	1779	1768	1760	1754	1749	1755	1760	1758	1751	1728
21.5	1785	1774	1766	1761	1757	1764	1770	1770	1763	1740
22.0	1790	1779	1773	1767	1765	1773	1781	1781	1775	1751
22.5	1796	1784	1779	1774	1772	1783	1792	1794	1787	1763
23.0	1802	1789	1784	1781	1780	1793	1804	1806	1801	1776
23.5	1809	1794	1789	1787	1788	1803	1816	1819	1814	1789
24.0	1815	1799	1793	1793	1797	1813	1827	1833	1828	1802
24.5	1821	1803	1797	1799	1805	1823	1839	1846	1842	1815
25.0	1827	1808	1801	1805	1813	1834	1852	1860	1856	1829
25.5	1832	1812	1805	1810	1821	1844	1865	1875	1871	1844
26.0	1838	1817	1809	1816	1828	1855	1878	1889	1887	1859
26.5	1843	1821	1813	1821	1836	1866	1892	1904	1902	1875
27.0	1848	1826	1817	1826	1844	1877	1905	1919	1918	1890
27.5	1854	1830	1820	1831	1852	1888	1918	1934	1933	1906
28.0	1860	1834	1825	1837	1860	1899	1931	1948	1948	1922
28.5	1866	1839	1829	1843	1868	1909	1944	1962	1962	1938
29.0	1873	1843	1833	1849	1876	1920	1956	1976	1977	1953
29.5	1879	1848	1838	1854	1884	1930	1968	1989	1991	1969
30.0	1886	1853	1842	1860	1892	1939	1980	2002	2005	1984
30.5	1893	1858	1845	1864	1899	1949	1992	2015	2019	1999
31.0	1900	1864	1849	1867	1905	1957	2003	2027	2032	2013
31.5	1907	1869	1853	1871	1911	1965	2013	2039	2045	2027
32.0	1914	1875	1856	1874	1917	1973	2023	2050	2058	2040
32.5	1922	1880	1859	1876	1922	1980	2033	2060	2070	2052
33.0	1930	1887	1862	1878	1925	1986	2040	2069	2080	2063
33.5	1940	1893	1865	1880	1928	1992	2046	2077	2089	2073
34.0	1948	1899	1868	1881	1931	1996	2052	2083	2098	2083
34.5	1957	1905	1870	1882	1932	2001	2057	2090	2106	2092
35.0	1965	1911	1872	1882	1934	2004	2061	2096	2114	2100
35.5	1972	1915	1874	1882	1934	2006	2064	2101	2120	2107
36.0	1979	1919	1874	1881	1934	2008	2067	2105	2125	2113
36.5	1985	1922	1875	1880	1933	2008	2069	2109	2129	2119
37.0	1989	1924	1874	1878	1932	2009	2071	2112	2133	2125
37.5	1993	1925	1872	1876	1931	2008	2072	2115	2136	2129
38.0	1993	1924	1868	1873	1929	2006	2071	2115	2138	2133
38.5	1992	1921	1863	1869	1926	2004	2071	2115	2139	2137
39.0	1990	1917	1856	1865	1923	2001	2069	2113	2139	2140
39.5	1986	1913	1850	1860	1920	1997	2067	2111	2139	2142
40.0	1982	1907	1843	1855	1916	1993	2064	2108	2138	2144
40.5	1975	1898	1835	1848	1911	1989	2059	2103	2135	2146
41.0	1967	1888	1827	1841	1905	1984	2052	2097	2131	2148
41.5	1958	1878	1819	1833	1899	1979	2046	2090	2127	2149
42.0	1949	1867	1810	1825	1892	1973	2038	2082	2122	2149
42.5	1939	1857	1802	1817	1885	1966	2029	2074	2116	2149
43.0	1929	1848	1794	1809	1877	1958	2019	2063	2108	2146
43.5	1919	1840	1785	1801	1869	1948	2007	2052	2099	2142
44.0	1908	1831	1777	1793	1861	1938	1995	2040	2090	2138
44.5	1898	1823	1769	1784	1852	1928	1983	2029	2080	2132
45.0	1888	1815	1761	1776	1843	1917	1972	2018	2071	2126
45.5	1878	1806	1752	1767	1833	1906	1961	2008	2062	2118

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CANDELA TABULATION - (Cont.)

46.0	1869	1797	1744	1757	1823	1894	1951	1999	2052	2110
46.5	1860	1788	1736	1748	1813	1882	1942	1991	2044	2100
47.0	1851	1779	1728	1739	1803	1871	1933	1983	2035	2091
47.5	1843	1771	1720	1730	1794	1860	1924	1976	2027	2082
48.0	1838	1764	1712	1721	1784	1852	1916	1969	2020	2074
48.5	1833	1757	1704	1712	1774	1844	1909	1963	2014	2065
49.0	1829	1751	1696	1704	1764	1836	1903	1957	2009	2057
49.5	1825	1746	1689	1696	1755	1829	1897	1952	2004	2049
50.0	1822	1741	1682	1689	1747	1823	1891	1947	1999	2041
50.5	1819	1737	1677	1683	1740	1817	1888	1944	1995	2033
51.0	1816	1734	1673	1677	1733	1813	1885	1942	1991	2025
51.5	1814	1732	1669	1672	1728	1809	1883	1941	1987	2018
52.0	1812	1730	1666	1667	1722	1805	1882	1940	1984	2010
52.5	1810	1728	1664	1663	1718	1801	1880	1939	1982	2003
53.0	1809	1728	1662	1660	1716	1798	1879	1939	1979	1997
53.5	1808	1728	1662	1658	1714	1795	1879	1940	1977	1991
54.0	1808	1729	1661	1656	1712	1793	1879	1940	1975	1986
54.5	1808	1730	1662	1655	1711	1791	1879	1941	1973	1982
55.0	1808	1731	1662	1654	1709	1789	1879	1943	1972	1979
55.5	1807	1732	1662	1652	1706	1787	1880	1944	1972	1978
56.0	1807	1734	1662	1651	1703	1786	1882	1946	1972	1978
56.5	1807	1734	1662	1649	1698	1785	1883	1947	1973	1980
57.0	1806	1734	1662	1647	1694	1785	1885	1948	1975	1983
57.5	1807	1734	1662	1645	1692	1788	1886	1947	1977	1986
58.0	1807	1733	1662	1643	1691	1791	1887	1947	1980	1990
58.5	1806	1733	1661	1642	1690	1792	1890	1949	1984	1995
59.0	1806	1733	1659	1642	1691	1794	1893	1953	1990	2002
59.5	1807	1733	1658	1642	1692	1797	1897	1956	1997	2011
60.0	1809	1733	1657	1642	1695	1800	1901	1960	2006	2023
60.5	1812	1735	1658	1643	1697	1804	1903	1965	2020	2038
61.0	1816	1737	1660	1645	1699	1807	1905	1973	2038	2058
61.5	1820	1741	1662	1648	1701	1809	1909	1987	2059	2084
62.0	1826	1746	1666	1652	1704	1812	1916	2006	2087	2115
62.5	1835	1751	1673	1657	1707	1817	1927	2027	2122	2154
63.0	1845	1759	1682	1664	1712	1824	1943	2055	2166	2200
63.5	1858	1770	1693	1670	1718	1831	1962	2096	2219	2257
64.0	1874	1784	1706	1679	1727	1842	1989	2151	2290	2336
64.5	1895	1804	1722	1692	1740	1861	2027	2219	2404	2481
65.0	1920	1828	1742	1710	1759	1890	2084	2326	2561	2647
65.5	1948	1858	1766	1732	1788	1931	2175	2562	2845	2846
66.0	1981	1892	1795	1761	1827	1993	2323	2849	3144	3024
66.5	2022	1931	1832	1799	1877	2104	2654	3225	3384	3099
67.0	2068	1975	1877	1847	1949	2268	3025	3579	3569	3120
67.5	2124	2032	1934	1914	2076	2593	3388	3765	3592	3036
68.0	2188	2098	2002	2002	2251	2945	3712	3893	3575	2928
68.5	2265	2181	2094	2139	2554	3251	3894	3974	3594	2866
69.0	2350	2273	2204	2318	2875	3515	4029	4030	3599	2791
69.5	2447	2383	2350	2608	3147	3660	4144	4094	3564	2663
70.0	2552	2505	2527	2913	3382	3764	4226	4115	3480	2487
70.5	2681	2658	2790	3175	3527	3857	4256	4010	3285	2187
71.0	2820	2828	3064	3392	3628	3919	4229	3834	3020	1854
71.5	2981	3046	3308	3490	3674	3925	4083	3546	2613	1530
72.0	3136	3251	3503	3539	3687	3888	3866	3193	2168	1207
72.5	3266	3387	3553	3544	3663	3786	3537	2732	1738	871
73.0	3359	3464	3541	3519	3613	3630	3150	2240	1319	575
73.5	3357	3403	3462	3452	3545	3369	2676	1744	932	442

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74.0	3301	3291	3345	3365	3436	3047	2178	1274	601	357
74.5	3160	3150	3191	3284	3224	2618	1681	901	451	283
75.0	2980	2984	3015	3163	2938	2147	1213	595	356	225
75.5	2774	2789	2830	2916	2486	1633	852	439	277	188
76.0	2546	2571	2607	2589	1987	1141	556	336	216	160
76.5	2292	2317	2269	2085	1467	773	388	261	174	130
77.0	2018	2031	1886	1544	984	478	275	206	141	105
77.5	1704	1668	1432	1030	669	330	221	167	109	83
78.0	1375	1290	995	588	428	238	189	138	83	65
78.5	1022	928	694	411	298	191	152	109	65	55
79.0	695	607	459	311	214	163	121	85	52	49
79.5	481	429	337	238	175	136	97	66	45	45
80.0	318	304	256	185	152	113	78	52	42	42
80.5	232	231	199	145	122	91	62	43	37	38
81.0	176	181	157	117	97	73	51	36	34	35
81.5	137	147	126	97	77	59	42	33	32	32
82.0	110	122	104	83	63	48	37	32	31	31
82.5	89	103	87	73	52	41	33	31	30	30
83.0	69	81	68	59	42	34	29	28	28	28
83.5	53	61	52	46	35	29	26	25	25	25
84.0	40	45	39	36	29	26	24	23	23	24
84.5	31	32	29	29	26	24	22	22	22	22
85.0	24	23	22	23	24	24	22	21	21	21
85.5	20	18	19	20	21	22	20	19	19	20
86.0	18	17	17	18	20	20	19	18	18	19
86.5	18	17	17	18	18	19	18	17	17	18
87.0	18	18	18	18	18	18	17	17	17	17
87.5	18	19	19	18	17	17	16	16	15	15
88.0	16	16	16	16	15	14	14	14	13	13
88.5	13	13	13	13	12	12	11	11	11	11
89.0	9	10	10	9	9	9	8	8	8	8
89.5	6	6	6	5	5	5	5	5	4	4
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles **Horizontal Angles**

	<u>100</u>	<u>105</u>	<u>110</u>	<u>115</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>135</u>	<u>140</u>	<u>145</u>
0.0	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578
0.5	1576	1576	1575	1575	1575	1576	1575	1576	1575	1576
1.0	1574	1574	1573	1572	1573	1574	1573	1573	1573	1573
1.5	1572	1571	1570	1569	1570	1571	1571	1571	1570	1571
2.0	1570	1569	1568	1567	1568	1569	1568	1568	1568	1569
2.5	1569	1567	1566	1564	1566	1567	1566	1566	1565	1566
3.0	1568	1566	1565	1563	1564	1565	1564	1564	1563	1563
3.5	1568	1565	1564	1562	1562	1564	1562	1561	1560	1560
4.0	1567	1565	1563	1561	1561	1562	1560	1559	1557	1557
4.5	1567	1565	1563	1560	1560	1560	1558	1556	1554	1553
5.0	1567	1564	1562	1559	1559	1558	1556	1554	1551	1550
5.5	1567	1564	1562	1558	1557	1557	1554	1552	1549	1548
6.0	1568	1564	1561	1557	1556	1555	1552	1549	1547	1545
6.5	1568	1564	1561	1557	1555	1554	1550	1547	1544	1543
7.0	1568	1564	1561	1556	1554	1552	1548	1545	1542	1540
7.5	1569	1564	1560	1555	1553	1551	1546	1543	1539	1538
8.0	1570	1565	1560	1554	1551	1548	1543	1540	1536	1534
8.5	1572	1566	1560	1553	1549	1546	1541	1537	1533	1531
9.0	1573	1566	1560	1552	1548	1544	1538	1534	1529	1527

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CANDELA TABULATION - (Cont.)

9.5	1575	1567	1560	1551	1546	1542	1535	1531	1526	1523
10.0	1577	1569	1561	1551	1545	1540	1533	1528	1522	1520
10.5	1580	1571	1562	1551	1544	1538	1530	1524	1519	1516
11.0	1582	1573	1563	1551	1543	1536	1527	1521	1515	1512
11.5	1585	1575	1564	1551	1543	1534	1524	1518	1512	1509
12.0	1589	1578	1565	1551	1542	1532	1522	1515	1509	1505
12.5	1592	1580	1567	1552	1541	1531	1519	1512	1506	1502
13.0	1596	1583	1568	1552	1540	1530	1517	1509	1503	1499
13.5	1600	1585	1570	1552	1539	1528	1515	1506	1500	1495
14.0	1604	1588	1571	1552	1538	1527	1514	1504	1497	1492
14.5	1608	1590	1573	1552	1537	1526	1512	1502	1494	1489
15.0	1613	1594	1574	1553	1537	1525	1510	1499	1491	1486
15.5	1618	1597	1577	1554	1537	1524	1509	1498	1489	1483
16.0	1623	1601	1579	1556	1537	1522	1507	1496	1487	1481
16.5	1629	1606	1582	1557	1537	1521	1505	1494	1485	1478
17.0	1635	1611	1585	1559	1538	1520	1504	1493	1483	1475
17.5	1641	1616	1588	1561	1538	1519	1502	1491	1480	1472
18.0	1648	1622	1592	1563	1539	1519	1501	1489	1478	1468
18.5	1656	1628	1596	1565	1540	1519	1500	1487	1475	1465
19.0	1663	1634	1601	1568	1541	1519	1499	1485	1472	1462
19.5	1671	1641	1606	1570	1542	1520	1498	1482	1469	1458
20.0	1679	1648	1611	1573	1543	1520	1497	1480	1465	1454
20.5	1688	1654	1616	1576	1545	1520	1497	1477	1462	1449
21.0	1697	1661	1621	1578	1547	1521	1496	1474	1458	1444
21.5	1706	1668	1626	1582	1549	1521	1495	1472	1454	1439
22.0	1716	1675	1631	1585	1551	1522	1494	1469	1449	1434
22.5	1726	1682	1637	1589	1553	1522	1492	1466	1445	1428
23.0	1738	1692	1643	1593	1555	1522	1490	1463	1440	1423
23.5	1749	1701	1650	1598	1557	1521	1487	1460	1436	1417
24.0	1762	1712	1656	1604	1558	1521	1484	1457	1431	1412
24.5	1774	1722	1664	1609	1560	1521	1482	1454	1427	1407
25.0	1787	1734	1672	1615	1562	1520	1479	1451	1423	1402
25.5	1801	1747	1682	1621	1565	1521	1477	1448	1419	1398
26.0	1816	1761	1692	1627	1567	1521	1476	1444	1415	1394
26.5	1831	1775	1703	1633	1570	1522	1474	1440	1412	1390
27.0	1846	1789	1715	1639	1573	1523	1473	1437	1409	1387
27.5	1861	1803	1726	1646	1576	1524	1471	1434	1405	1384
28.0	1876	1816	1737	1654	1582	1525	1471	1432	1403	1382
28.5	1891	1829	1749	1663	1588	1526	1470	1430	1401	1380
29.0	1906	1841	1760	1672	1594	1528	1469	1428	1398	1378
29.5	1921	1853	1771	1681	1601	1529	1468	1427	1396	1376
30.0	1936	1866	1783	1691	1607	1531	1468	1425	1394	1375
30.5	1950	1879	1795	1702	1614	1534	1467	1425	1393	1373
31.0	1964	1893	1807	1714	1621	1536	1467	1424	1392	1371
31.5	1978	1907	1819	1726	1628	1538	1466	1423	1391	1369
32.0	1991	1920	1831	1738	1634	1541	1466	1423	1389	1367
32.5	2004	1934	1844	1750	1641	1543	1465	1422	1388	1365
33.0	2015	1947	1858	1760	1649	1545	1466	1420	1386	1364
33.5	2025	1961	1872	1770	1656	1546	1467	1419	1385	1362
34.0	2035	1975	1886	1780	1663	1548	1467	1417	1383	1360
34.5	2045	1988	1900	1789	1670	1549	1468	1415	1381	1358
35.0	2055	2000	1914	1799	1676	1551	1468	1413	1378	1355
35.5	2064	2012	1926	1808	1680	1554	1468	1410	1374	1351
36.0	2074	2023	1938	1817	1683	1556	1467	1407	1369	1346
36.5	2083	2034	1950	1826	1685	1558	1466	1403	1365	1340
37.0	2092	2045	1961	1834	1687	1560	1464	1400	1359	1334

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CANDELA TABULATION - (Cont.)

37.5	2100	2055	1971	1842	1690	1561	1461	1395	1354	1328
38.0	2109	2067	1980	1850	1693	1560	1457	1390	1347	1320
38.5	2118	2078	1989	1858	1696	1558	1452	1385	1341	1313
39.0	2127	2088	1997	1865	1699	1555	1446	1379	1334	1305
39.5	2135	2099	2005	1872	1701	1551	1440	1373	1326	1296
40.0	2142	2108	2012	1877	1702	1547	1433	1366	1319	1288
40.5	2150	2117	2019	1878	1702	1541	1427	1358	1310	1279
41.0	2156	2125	2026	1879	1701	1535	1420	1350	1302	1271
41.5	2162	2132	2032	1878	1698	1528	1412	1341	1293	1262
42.0	2167	2138	2038	1877	1695	1520	1405	1331	1284	1253
42.5	2171	2143	2042	1875	1691	1513	1397	1322	1275	1244
43.0	2171	2144	2044	1873	1683	1506	1388	1313	1267	1234
43.5	2169	2144	2044	1870	1675	1499	1379	1304	1258	1225
44.0	2167	2143	2043	1867	1666	1492	1370	1295	1249	1215
44.5	2163	2141	2041	1863	1656	1484	1360	1285	1240	1205
45.0	2158	2137	2039	1858	1647	1476	1350	1276	1231	1196
45.5	2151	2131	2035	1853	1639	1465	1341	1268	1224	1187
46.0	2143	2124	2029	1846	1632	1454	1331	1260	1216	1178
46.5	2134	2116	2024	1839	1624	1443	1322	1252	1208	1169
47.0	2125	2107	2017	1832	1616	1431	1312	1244	1200	1159
47.5	2115	2098	2009	1824	1608	1419	1303	1236	1191	1149
48.0	2104	2087	1998	1815	1596	1407	1294	1227	1181	1137
48.5	2093	2076	1986	1805	1584	1396	1285	1219	1170	1125
49.0	2082	2064	1974	1795	1572	1384	1277	1210	1158	1112
49.5	2071	2052	1961	1784	1559	1373	1267	1200	1146	1099
50.0	2060	2040	1949	1772	1545	1361	1258	1190	1134	1087
50.5	2049	2030	1940	1758	1530	1351	1247	1178	1121	1076
51.0	2039	2019	1931	1744	1514	1340	1236	1164	1107	1065
51.5	2028	2009	1922	1729	1498	1330	1224	1150	1093	1054
52.0	2018	1999	1913	1714	1483	1319	1211	1136	1078	1043
52.5	2008	1988	1902	1698	1467	1308	1199	1121	1064	1032
53.0	2000	1978	1890	1683	1455	1295	1185	1106	1050	1022
53.5	1993	1968	1877	1668	1443	1282	1172	1092	1036	1011
54.0	1987	1958	1863	1653	1431	1269	1158	1076	1021	1000
54.5	1981	1948	1849	1639	1419	1255	1143	1061	1007	988
55.0	1976	1939	1834	1624	1406	1241	1128	1044	992	976
55.5	1974	1931	1816	1611	1394	1226	1111	1024	975	963
56.0	1972	1924	1799	1599	1382	1210	1092	1004	959	949
56.5	1970	1918	1790	1592	1366	1195	1070	985	941	935
57.0	1969	1913	1782	1585	1350	1179	1048	966	923	920
57.5	1971	1913	1774	1566	1334	1161	1030	947	907	907
58.0	1973	1914	1766	1544	1317	1143	1012	928	892	893
58.5	1976	1914	1757	1527	1300	1122	994	913	880	874
59.0	1980	1915	1749	1510	1282	1102	975	897	868	851
59.5	1988	1914	1745	1492	1263	1083	957	883	854	819
60.0	1998	1914	1742	1473	1243	1064	939	868	837	784
60.5	2012	1922	1733	1456	1222	1049	923	854	810	746
61.0	2028	1932	1724	1439	1201	1033	906	838	779	708
61.5	2049	1943	1716	1422	1181	1013	887	821	742	677
62.0	2073	1953	1707	1404	1160	992	869	800	705	650
62.5	2104	1962	1699	1384	1138	970	854	768	673	632
63.0	2142	1975	1689	1362	1115	947	837	733	644	614
63.5	2201	2002	1684	1342	1088	924	815	695	621	592
64.0	2271	2030	1674	1316	1058	898	786	655	598	566
64.5	2371	2054	1651	1273	1018	860	741	618	567	534
65.0	2467	2062	1613	1220	973	818	691	582	535	502

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CANDELA TABULATION - (Cont.)

65.5	2531	2025	1539	1153	921	778	643	553	502	478
66.0	2564	1966	1450	1079	864	733	595	525	471	456
66.5	2519	1873	1346	995	796	666	546	492	448	434
67.0	2439	1766	1234	909	726	595	497	458	424	411
67.5	2321	1645	1113	821	657	526	449	416	394	382
68.0	2191	1514	991	733	588	461	403	374	363	351
68.5	2075	1370	881	648	519	408	364	339	331	322
69.0	1944	1227	768	563	448	357	324	303	298	291
69.5	1758	1123	633	464	368	297	273	259	255	250
70.0	1549	998	501	370	293	239	222	216	212	208
70.5	1310	739	392	299	241	197	184	180	178	175
71.0	1056	483	301	239	198	162	153	150	149	147
71.5	766	362	247	197	163	137	130	128	127	126
72.0	504	282	207	164	134	118	111	110	109	110
72.5	378	236	177	141	116	105	99	97	97	97
73.0	296	203	153	124	104	95	89	87	87	87
73.5	248	175	137	113	95	87	83	80	80	80
74.0	215	152	125	104	88	82	78	75	75	75
74.5	185	137	117	96	83	77	73	71	70	70
75.0	160	126	110	91	79	74	70	68	67	66
75.5	141	117	102	85	76	70	67	65	64	63
76.0	126	108	95	80	72	67	64	62	61	59
76.5	110	98	86	74	68	64	62	59	58	56
77.0	96	88	78	69	64	61	59	57	55	53
77.5	83	79	71	63	59	58	56	53	52	51
78.0	73	71	64	58	55	54	53	50	49	48
78.5	65	64	57	53	51	51	49	47	46	46
79.0	59	57	51	49	48	47	45	45	44	44
79.5	53	52	47	45	44	44	42	42	42	41
80.0	48	47	44	42	41	40	38	39	40	39
80.5	43	43	40	39	38	37	35	36	37	36
81.0	39	40	38	36	35	35	33	33	34	34
81.5	36	37	35	34	33	32	30	31	32	32
82.0	34	34	33	32	31	30	28	29	29	29
82.5	31	32	31	30	29	27	26	27	27	27
83.0	29	29	29	28	27	25	25	25	25	26
83.5	26	27	26	26	25	24	23	23	24	24
84.0	24	25	24	24	23	22	22	22	22	23
84.5	23	23	22	22	21	21	21	21	21	22
85.0	21	21	21	20	20	20	20	20	20	21
85.5	20	20	20	20	19	19	19	19	20	20
86.0	19	19	19	19	19	19	19	19	20	20
86.5	18	18	18	18	18	18	19	19	20	20
87.0	17	17	17	17	18	18	18	19	19	20
87.5	16	16	16	16	16	17	17	18	18	19
88.0	13	13	14	14	14	14	14	15	15	16
88.5	11	11	11	11	11	11	11	11	12	12
89.0	7	7	7	7	7	8	8	8	8	8
89.5	4	4	4	4	4	4	4	4	4	4
90.0	0	0	0	0	0	0	0	0	0	0

**Vert.
Angles**

Horizontal Angles

	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	1578	1578	1578	1578	1578	1578	1578
0.5	1576	1576	1576	1576	1575	1576	1576

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CANDELA TABULATION - (Cont.)

1.0	1574	1574	1574	1574	1573	1574	1573
1.5	1572	1572	1572	1571	1571	1571	1571
2.0	1570	1570	1570	1569	1568	1569	1569
2.5	1568	1568	1568	1567	1566	1567	1566
3.0	1565	1565	1565	1564	1562	1563	1563
3.5	1562	1561	1562	1560	1559	1560	1559
4.0	1558	1558	1558	1557	1555	1556	1555
4.5	1555	1554	1554	1553	1551	1553	1551
5.0	1551	1551	1551	1549	1548	1549	1548
5.5	1548	1547	1547	1546	1544	1545	1544
6.0	1545	1544	1544	1542	1541	1542	1540
6.5	1543	1541	1541	1539	1538	1538	1536
7.0	1540	1538	1537	1535	1535	1535	1533
7.5	1537	1535	1533	1532	1531	1531	1529
8.0	1533	1531	1530	1528	1527	1528	1526
8.5	1530	1528	1526	1524	1524	1524	1522
9.0	1526	1524	1523	1521	1520	1520	1519
9.5	1523	1521	1519	1517	1516	1517	1516
10.0	1519	1517	1516	1513	1512	1513	1512
10.5	1515	1514	1512	1510	1509	1510	1509
11.0	1511	1510	1509	1507	1506	1507	1506
11.5	1508	1507	1506	1504	1502	1504	1503
12.0	1504	1503	1503	1501	1499	1501	1500
12.5	1500	1500	1500	1498	1496	1498	1497
13.0	1497	1497	1497	1496	1494	1495	1495
13.5	1494	1494	1493	1493	1491	1493	1492
14.0	1491	1490	1490	1490	1488	1490	1489
14.5	1488	1487	1487	1487	1486	1487	1487
15.0	1485	1484	1483	1484	1483	1484	1484
15.5	1482	1481	1479	1480	1479	1481	1481
16.0	1479	1477	1476	1477	1476	1477	1477
16.5	1476	1474	1472	1473	1472	1473	1474
17.0	1472	1470	1468	1469	1468	1469	1470
17.5	1469	1466	1464	1464	1463	1465	1465
18.0	1465	1461	1459	1459	1458	1460	1460
18.5	1461	1456	1454	1454	1453	1454	1455
19.0	1456	1451	1448	1449	1448	1449	1449
19.5	1452	1446	1443	1443	1442	1443	1443
20.0	1447	1440	1437	1437	1436	1436	1437
20.5	1441	1434	1430	1430	1429	1429	1430
21.0	1435	1427	1423	1422	1422	1422	1423
21.5	1429	1420	1416	1415	1414	1414	1416
22.0	1423	1413	1408	1407	1407	1407	1408
22.5	1417	1407	1401	1399	1399	1399	1401
23.0	1411	1400	1394	1392	1392	1392	1394
23.5	1405	1393	1388	1385	1385	1385	1387
24.0	1399	1387	1381	1378	1378	1378	1380
24.5	1394	1381	1374	1372	1372	1372	1374
25.0	1389	1375	1368	1365	1366	1366	1368
25.5	1384	1370	1364	1361	1362	1362	1364
26.0	1380	1366	1360	1357	1358	1358	1360
26.5	1376	1362	1356	1354	1354	1354	1357
27.0	1372	1358	1353	1350	1351	1351	1354
27.5	1368	1355	1349	1347	1347	1347	1350
28.0	1366	1353	1347	1344	1344	1344	1347
28.5	1364	1351	1345	1341	1341	1340	1342

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CANDELA TABULATION - (Cont.)

29.0	1362	1349	1342	1339	1337	1337	1338
29.5	1360	1347	1340	1336	1334	1333	1334
30.0	1358	1345	1338	1333	1330	1329	1329
30.5	1357	1343	1334	1329	1325	1324	1324
31.0	1355	1340	1331	1324	1320	1318	1318
31.5	1354	1338	1327	1319	1314	1312	1312
32.0	1352	1335	1323	1314	1309	1306	1305
32.5	1350	1332	1319	1309	1303	1299	1299
33.0	1348	1329	1315	1304	1297	1293	1292
33.5	1345	1326	1311	1299	1290	1286	1285
34.0	1341	1322	1306	1293	1284	1279	1278
34.5	1338	1318	1301	1287	1277	1271	1270
35.0	1333	1313	1296	1281	1270	1263	1262
35.5	1328	1307	1289	1274	1262	1255	1253
36.0	1323	1301	1282	1266	1253	1246	1244
36.5	1317	1294	1275	1258	1244	1236	1234
37.0	1310	1286	1268	1249	1235	1226	1224
37.5	1303	1278	1259	1240	1225	1216	1213
38.0	1296	1270	1250	1229	1214	1204	1200
38.5	1288	1262	1241	1219	1202	1191	1187
39.0	1280	1254	1230	1207	1190	1177	1174
39.5	1272	1245	1220	1195	1177	1163	1159
40.0	1263	1235	1208	1183	1163	1148	1144
40.5	1253	1223	1195	1168	1146	1130	1126
41.0	1242	1211	1181	1153	1129	1111	1107
41.5	1231	1198	1167	1137	1110	1092	1087
42.0	1220	1186	1152	1121	1092	1073	1067
42.5	1209	1173	1138	1105	1073	1053	1047
43.0	1198	1160	1124	1089	1055	1034	1028
43.5	1187	1147	1110	1073	1038	1015	1009
44.0	1176	1135	1097	1057	1021	997	990
44.5	1165	1122	1084	1043	1005	979	972
45.0	1155	1111	1072	1029	991	964	957
45.5	1145	1100	1062	1020	982	955	948
46.0	1135	1091	1053	1013	975	949	941
46.5	1125	1082	1044	1007	969	943	935
47.0	1115	1073	1036	1001	963	938	929
47.5	1105	1064	1029	996	959	933	925
48.0	1095	1056	1023	991	954	928	919
48.5	1085	1049	1017	986	950	923	915
49.0	1075	1042	1012	982	946	918	910
49.5	1065	1035	1008	979	943	915	906
50.0	1055	1029	1004	977	941	912	904
50.5	1047	1026	1005	979	945	915	906
51.0	1040	1023	1007	983	949	919	909
51.5	1033	1021	1009	987	954	922	913
52.0	1026	1019	1011	990	958	926	915
52.5	1019	1016	1013	994	961	927	915
53.0	1013	1015	1015	995	959	922	908
53.5	1007	1013	1017	996	955	914	898
54.0	1000	1010	1018	995	950	905	887
54.5	993	1006	1016	991	942	894	874
55.0	985	1001	1011	984	930	879	858
55.5	975	994	996	962	904	853	832
56.0	963	984	976	936	876	826	805
56.5	952	964	947	906	853	805	785

IES ROAD REPORT
PHOTOMETRIC FILENAME : L091603904.IES

CANDELA TABULATION - (Cont.)

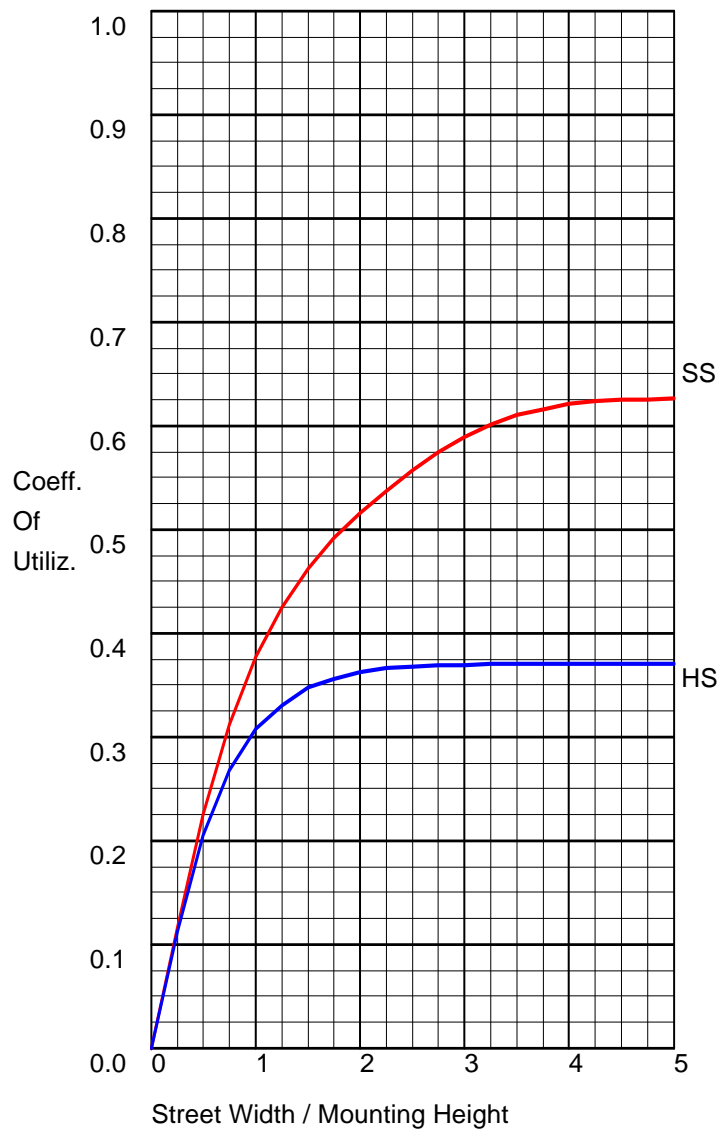
57.0	938	939	916	877	832	786	767
57.5	916	905	886	858	814	767	748
58.0	889	869	857	840	797	749	730
58.5	855	837	835	820	780	735	717
59.0	818	807	813	800	764	723	707
59.5	782	779	789	780	752	715	698
60.0	747	752	764	761	741	707	690
60.5	718	725	740	746	729	696	680
61.0	690	698	717	733	718	686	672
61.5	665	675	703	725	713	682	669
62.0	642	654	690	717	707	678	665
62.5	619	639	677	703	695	670	659
63.0	598	624	661	685	679	658	649
63.5	577	600	635	660	653	636	628
64.0	556	574	605	631	624	610	605
64.5	528	544	576	602	597	588	585
65.0	500	514	545	571	569	563	564
65.5	475	487	515	536	534	528	531
66.0	450	459	483	498	497	491	495
66.5	424	425	443	459	459	456	460
67.0	398	392	405	421	421	421	424
67.5	371	365	375	389	386	386	391
68.0	343	339	346	356	351	350	355
68.5	313	308	309	314	308	308	311
69.0	281	275	271	272	266	266	266
69.5	240	234	232	233	228	229	229
70.0	200	195	195	197	194	196	195
70.5	171	167	168	170	168	170	168
71.0	145	143	144	146	144	146	144
71.5	126	124	125	125	121	121	119
72.0	109	108	108	107	99	98	95
72.5	97	96	93	91	83	78	75
73.0	87	86	81	77	70	62	58
73.5	80	78	73	69	62	54	52
74.0	73	70	66	63	56	49	48
74.5	68	65	62	58	51	45	44
75.0	63	61	59	54	47	42	42
75.5	60	58	56	51	44	40	39
76.0	57	55	53	48	41	38	37
76.5	54	53	50	45	38	36	35
77.0	52	50	48	42	36	34	34
77.5	50	48	45	39	34	33	32
78.0	47	46	43	37	33	32	31
78.5	45	44	40	34	32	31	30
79.0	43	41	38	33	31	30	29
79.5	40	38	35	31	29	28	28
80.0	38	35	32	30	28	27	27
80.5	35	33	30	28	27	26	26
81.0	33	31	29	27	26	25	25
81.5	31	29	27	26	25	25	24
82.0	29	27	26	25	24	24	24
82.5	27	26	25	24	23	23	23
83.0	25	24	24	23	23	23	23
83.5	24	23	23	22	22	22	22
84.0	23	22	22	22	22	22	22
84.5	22	21	21	21	21	21	21

IES ROAD REPORT
PHOTOMETRIC FILENAME : L091603904.IES

CANDELA TABULATION - (Cont.)

85.0	21	21	21	21	21	21	21
85.5	21	21	21	21	21	21	21
86.0	21	21	21	21	21	21	21
86.5	20	21	21	21	21	21	21
87.0	20	20	20	21	21	21	21
87.5	19	19	19	20	20	20	20
88.0	16	16	16	16	17	17	17
88.5	12	13	13	13	13	13	13
89.0	8	8	9	9	9	9	9
89.5	4	4	4	4	4	4	4
90.0	0	0	0	0	0	0	0

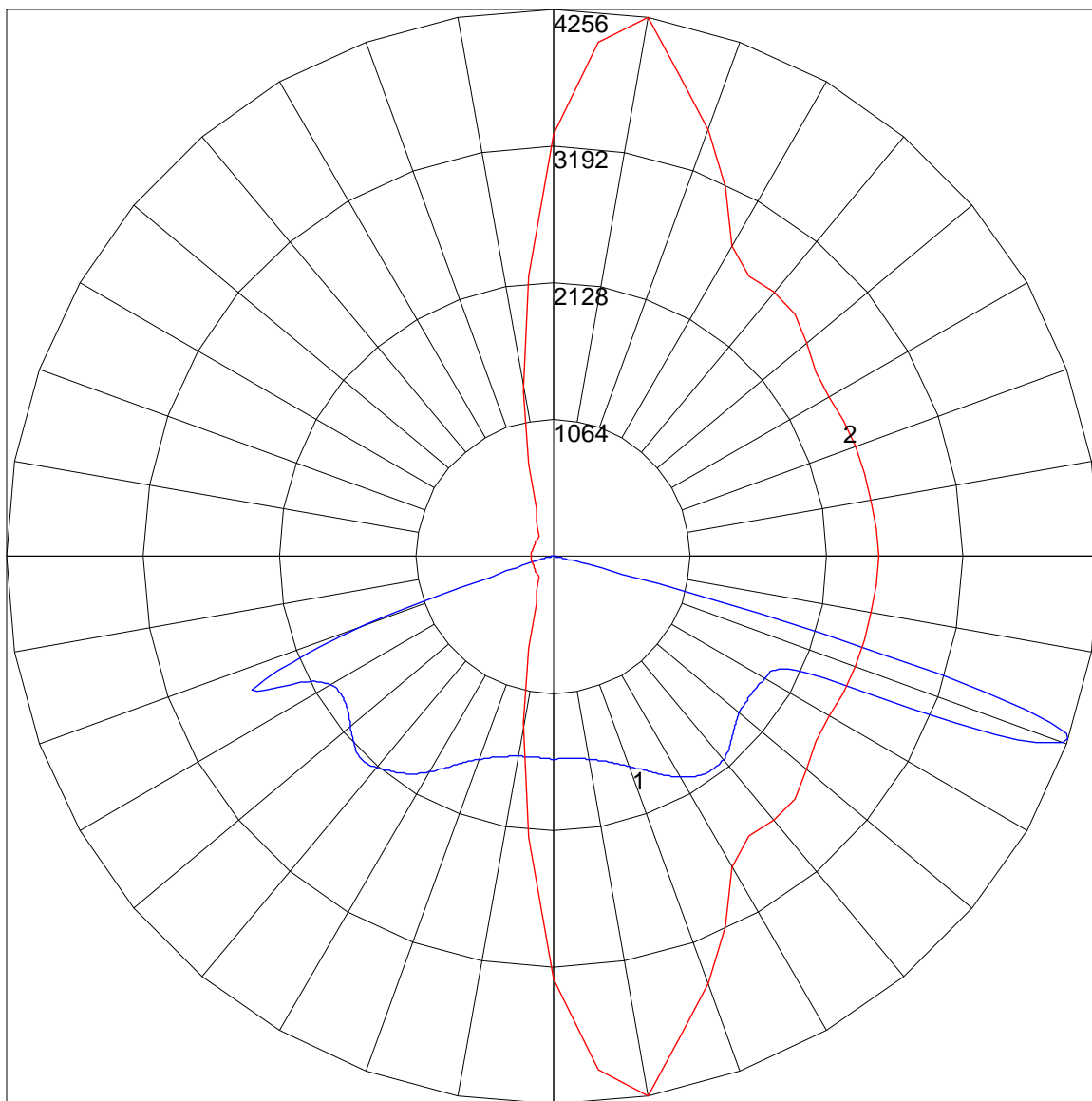
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

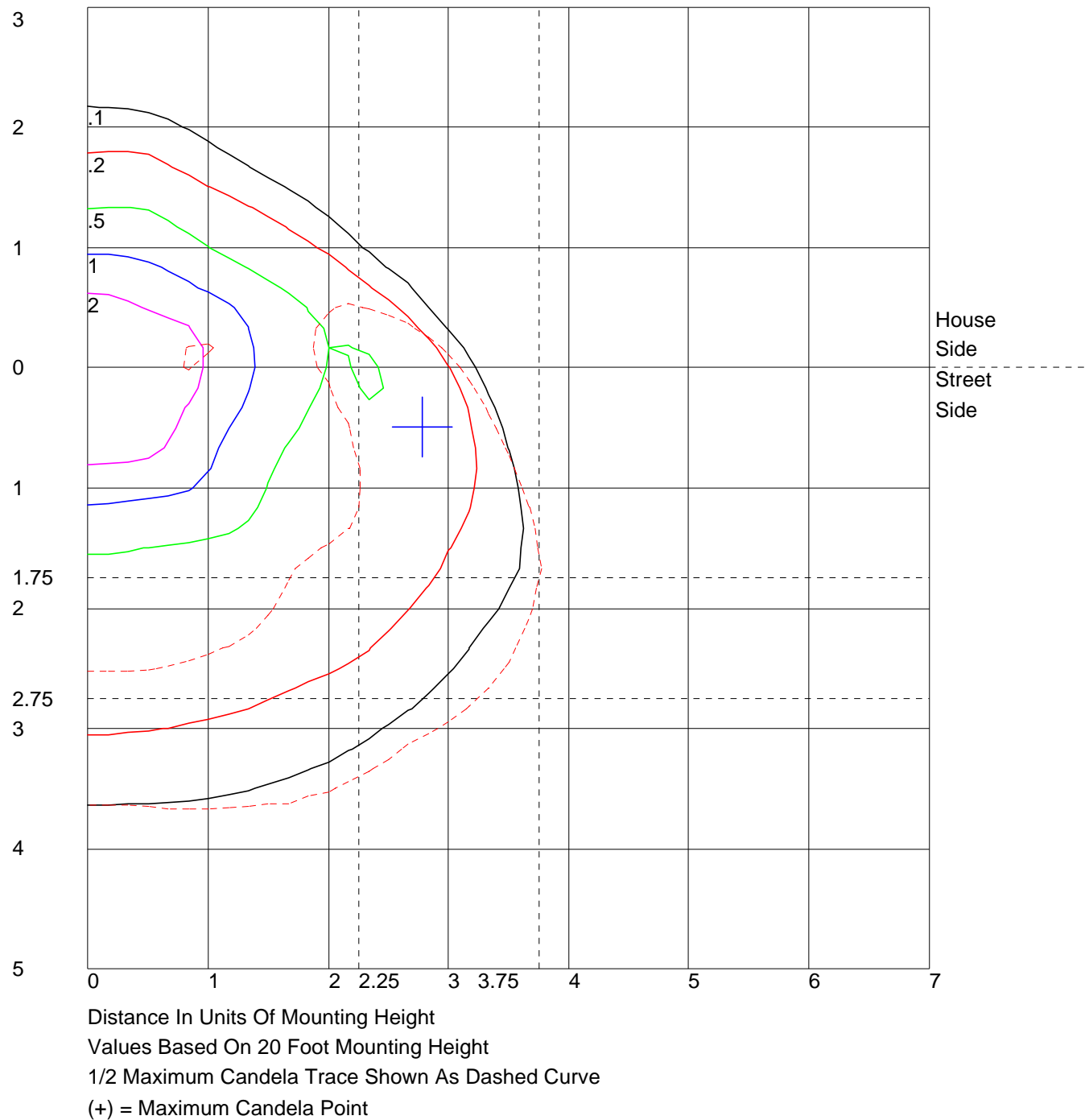
	Lumens	Percent Of Luminaire
Downward Street Side	4813.4	62.8
Downward House Side	2852.2	37.2
Downward Total	7665.6	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	7665.6	100.0

POLAR GRAPH

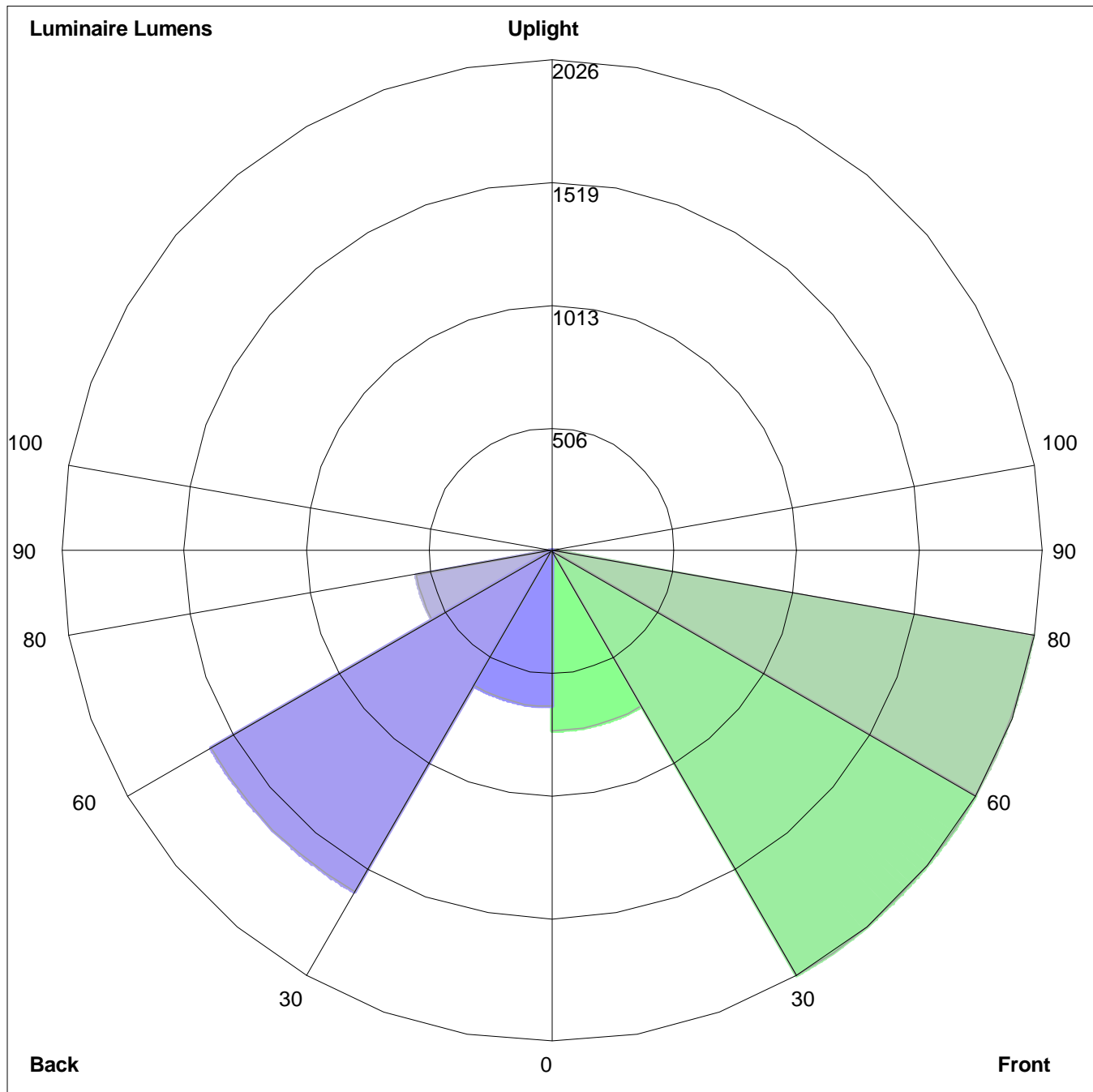


Maximum Candela = 4256 Located At Horizontal Angle = 80, Vertical Angle = 70.5
1 - Vertical Plane Through Horizontal Angles (80 - 260) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (70.5) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=742.5, Medium=2025.7, High= 2020.0, Very High=25.2
Back: Low=643.1, Medium=1628.7, High=568.9, Very High=11.5
Uplight: Low=0.0, High=0.0

BUG Rating : B2-U0-G2