

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776504

Luminaire Tested: HCDJBS3040CSD-HCD8TRMB-4000lm-5000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776504
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2310613A001)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD8TRMB-4000lm-5000K
Description: 8 INCH ROUND MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3016.0 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.25 / 1.15
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

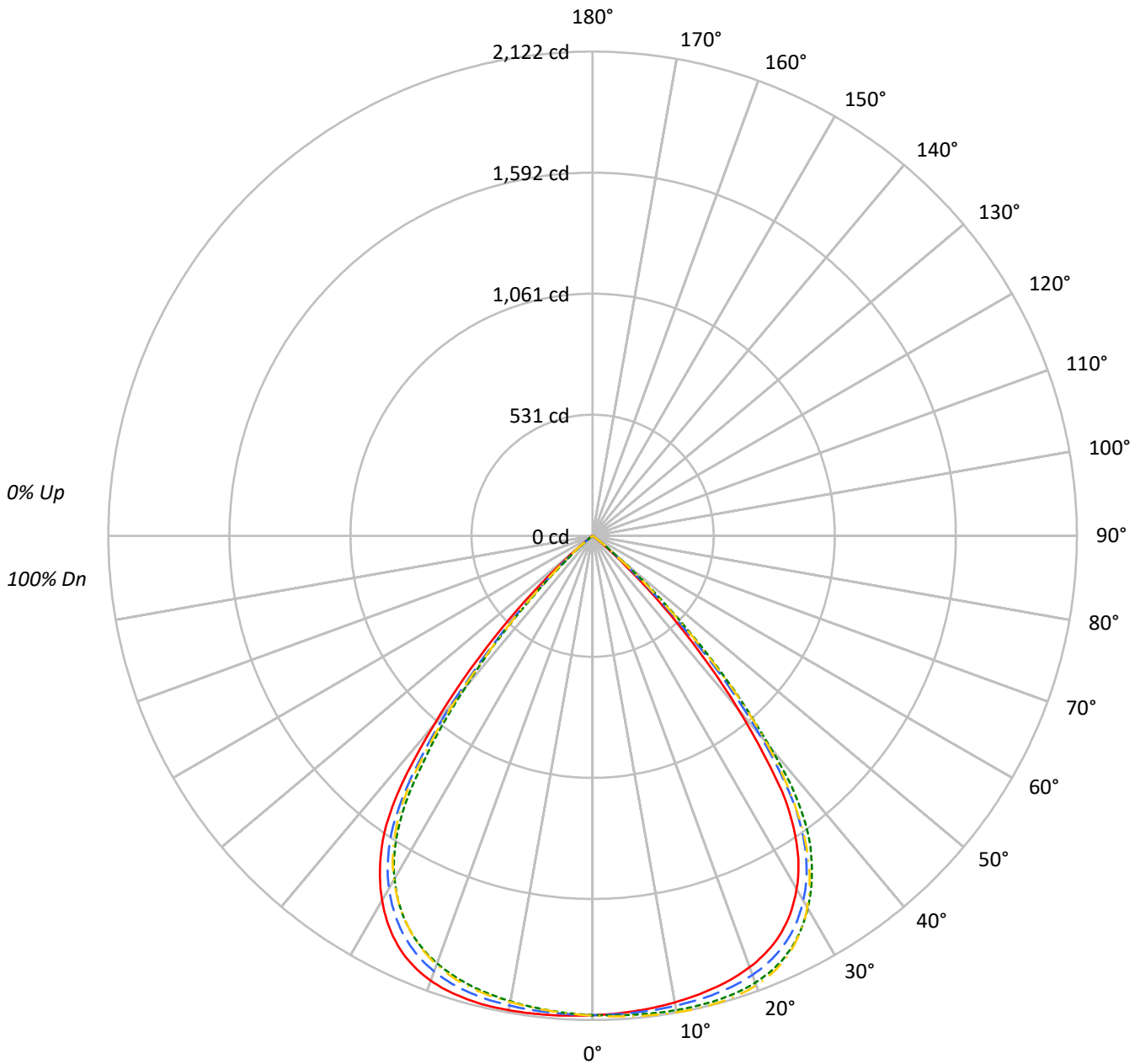
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	113	110	107	105	111	108	106	103	104	102	100	100	99	97	97	95	94	93	93	93	93
2	107	102	97	94	105	100	96	92	97	93	90	94	91	89	91	89	87	85	85	85	85
3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78	78	78	78
4	95	87	81	76	93	85	80	76	83	78	75	81	77	74	79	76	73	71	71	71	71
5	89	80	74	69	88	79	73	69	77	72	68	76	71	67	74	70	67	65	65	65	65
6	84	74	68	63	83	74	67	63	72	66	62	70	66	62	69	65	61	60	60	60	60
7	79	69	62	58	78	68	62	58	67	61	57	66	61	57	65	60	57	55	55	55	55
8	75	64	58	53	73	64	57	53	63	57	53	61	56	53	60	56	52	51	51	51	51
9	71	60	53	49	69	59	53	49	58	53	49	57	52	49	57	52	48	47	47	47	47
10	67	56	50	45	66	56	49	45	55	49	45	54	49	45	53	48	45	43	43	43	43

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	64156	64156	64156	64156
5°	64101	64576	64613	64037
10°	64371	65450	65462	64232
15°	64880	66600	66524	64596
20°	65376	67715	67410	64778
25°	65166	68033	67289	64051
30°	63022	66467	65039	61235
35°	56689	61996	59312	53170
40°	39675	48184	43031	34538
45°	18894	26946	22003	14270
50°	3847	7224	4099	1824
55°	176	261	154	106
60°	49	49	49	49
65°	29	29	29	29
70°	36	36	36	36
75°	0	0	0	0
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 26946 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.3	6.6
10°-20°	587.6	19.5
20°-30°	900.0	29.8
30°-40°	936.5	31.1
40°-50°	378.1	12.5
50°-60°	12.9	0.4
60°-70°	0.5	0.0
70°-80°	0.1	0.0
80°-90°	0.0	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1687.9	56.0
0°-40°	2624.4	87.0
0°-60°	3015.4	100.0
0°-90°	3016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3016.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2101	2101	2101	2101	2101	
5°	2092	2107	2108	2090	2092	199
15°	2053	2107	2105	2044	2053	580
25°	1934	2020	1998	1901	1934	887
35°	1521	1663	1591	1427	1521	915
45°	438	624	510	330	438	352
55°	3	5	3	2	3	11
65°	0	0	0	0	0	1
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4
0.5°	2100.6	2099.7	2100.6	2101.0	2101.4	2103.4	2104.2	2104.2	2102.2	2101.0	2100.6
1°	2099.7	2099.7	2100.6	2101.4	2102.2	2104.7	2105.1	2103.0	2101.4	2101.4	2100.2
1.5°	2098.9	2098.9	2100.6	2101.8	2103.0	2105.5	2106.3	2103.8	2101.4	2101.4	2100.2
2°	2098.1	2098.5	2100.2	2102.2	2103.8	2106.3	2107.1	2104.2	2101.8	2101.8	2100.2
2.5°	2097.3	2097.7	2100.2	2102.6	2104.2	2107.1	2108.7	2107.9	2105.1	2102.2	2099.7
3°	2096.1	2097.3	2099.7	2102.6	2104.7	2108.3	2109.6	2109.2	2105.9	2102.6	2099.3
3.5°	2095.2	2096.5	2099.7	2102.6	2105.5	2108.7	2110.4	2110.0	2106.7	2102.6	2098.9
4°	2094.0	2095.7	2098.9	2103.0	2105.9	2109.6	2111.6	2110.8	2107.5	2102.6	2098.9
4.5°	2092.8	2094.8	2098.5	2103.0	2106.3	2110.8	2112.4	2111.6	2107.9	2103.0	2098.1
5°	2091.6	2094.0	2098.1	2103.0	2107.1	2111.6	2113.2	2112.8	2108.3	2103.0	2097.7
5.5°	2090.3	2092.8	2097.7	2103.4	2107.5	2112.4	2114.5	2113.7	2109.2	2103.0	2097.3
6°	2089.1	2092.0	2097.3	2103.4	2107.9	2113.2	2115.3	2114.1	2109.6	2103.4	2096.9
6.5°	2087.9	2090.7	2096.5	2103.4	2108.7	2114.1	2116.1	2114.9	2110.0	2103.4	2096.5
7°	2086.7	2089.5	2096.1	2103.4	2109.2	2114.5	2116.9	2115.7	2110.4	2103.0	2095.7
7.5°	2085.0	2088.3	2095.7	2103.8	2109.6	2115.3	2117.7	2116.5	2110.8	2103.0	2095.2
8°	2083.4	2087.1	2094.8	2103.4	2110.0	2116.1	2118.6	2116.9	2111.2	2103.4	2094.4
8.5°	2081.7	2085.4	2094.0	2103.8	2110.4	2116.5	2119.0	2117.7	2111.2	2103.0	2093.6
9°	2080.1	2084.2	2093.2	2103.4	2110.8	2116.9	2119.8	2118.1	2111.6	2102.6	2093.2
9.5°	2078.1	2082.6	2092.4	2103.4	2110.8	2117.3	2120.2	2118.6	2111.6	2102.6	2092.0
10°	2076.4	2080.9	2091.6	2103.0	2111.2	2117.7	2120.6	2119.0	2111.6	2102.2	2091.2
10.5°	2074.4	2079.3	2090.7	2103.0	2111.2	2118.1	2121.0	2119.0	2111.6	2101.8	2089.9
11°	2072.3	2077.7	2089.5	2102.6	2111.2	2118.6	2121.4	2119.4	2111.2	2101.0	2088.7
11.5°	2070.3	2075.6	2088.3	2102.2	2111.2	2118.6	2121.4	2119.4	2111.2	2100.2	2087.5
12°	2068.3	2073.6	2087.5	2101.8	2111.2	2118.6	2121.8	2119.4	2110.8	2099.3	2085.8
12.5°	2065.8	2071.9	2086.2	2101.4	2110.8	2118.6	2121.8	2119.0	2110.0	2098.5	2084.6
13°	2063.3	2069.5	2084.6	2100.6	2110.4	2118.6	2121.4	2119.0	2109.6	2097.3	2082.6
13.5°	2060.9	2067.4	2083.4	2099.7	2109.6	2118.6	2121.0	2118.6	2108.7	2095.7	2080.9
14°	2058.0	2065.4	2081.7	2098.9	2108.7	2117.7	2120.6	2118.1	2107.5	2094.4	2078.5
14.5°	2055.6	2062.9	2080.1	2097.7	2108.3	2117.3	2120.2	2117.3	2106.3	2092.8	2076.4
15°	2052.7	2060.5	2078.1	2096.5	2107.1	2116.5	2119.4	2116.5	2104.7	2090.7	2074.0
15.5°	2049.4	2058.0	2076.0	2094.8	2106.3	2115.7	2118.1	2115.3	2103.0	2088.7	2071.1
16°	2046.2	2055.2	2074.0	2093.2	2104.7	2114.5	2116.9	2113.7	2101.0	2086.2	2068.3
16.5°	2042.9	2052.3	2071.5	2091.6	2103.0	2112.8	2115.7	2112.0	2098.9	2083.4	2065.0
17°	2039.2	2049.0	2069.1	2089.1	2101.4	2111.2	2113.7	2109.6	2096.5	2080.5	2061.3
17.5°	2035.1	2045.8	2066.2	2086.7	2099.3	2109.2	2111.6	2107.5	2094.0	2077.3	2057.2
18°	2031.0	2042.5	2062.9	2083.8	2096.9	2106.7	2109.6	2104.7	2090.7	2073.6	2052.7
18.5°	2026.9	2038.4	2060.1	2080.9	2094.4	2103.8	2106.7	2101.4	2087.5	2069.5	2048.2
19°	2022.0	2034.7	2056.4	2077.7	2091.2	2100.6	2103.8	2098.1	2083.4	2065.0	2043.3
19.5°	2017.1	2030.2	2052.3	2073.6	2087.9	2097.3	2100.6	2094.0	2079.3	2060.1	2037.6
20°	2012.2	2025.7	2048.2	2069.5	2084.2	2093.6	2096.5	2089.9	2074.8	2054.8	2031.4
20.5°	2006.5	2020.8	2043.3	2065.0	2080.1	2089.1	2092.4	2085.0	2069.5	2049.0	2024.9
21°	2000.4	2015.5	2038.4	2060.1	2075.2	2084.2	2087.5	2080.1	2064.2	2042.5	2018.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1979.9	1997.5	2020.4	2042.5	2059.3	2066.6	2069.5	2060.9	2043.7	2020.8	1994.2
23°	1972.1	1990.5	2013.4	2035.5	2052.7	2059.7	2062.5	2053.5	2035.9	2012.2	1985.2
23.5°	1963.6	1983.2	2006.1	2027.8	2044.9	2051.9	2054.8	2044.9	2027.4	2002.8	1975.8
24°	1954.6	1975.0	1997.9	2020.0	2038.0	2043.7	2046.6	2036.4	2018.4	1993.4	1965.6
24.5°	1945.1	1966.8	1989.3	2011.0	2029.8	2034.7	2036.8	2026.9	2008.1	1982.8	1954.6
25°	1934.5	1957.4	1980.3	2001.6	2019.6	2025.3	2027.4	2016.7	1997.5	1971.7	1943.1
25.5°	1923.9	1947.6	1970.1	1991.8	2010.2	2014.7	2016.3	2005.7	1986.0	1959.9	1931.2
26°	1912.0	1936.6	1959.5	1981.1	2000.0	2003.6	2004.9	1993.8	1973.8	1947.2	1918.2
26.5°	1899.7	1925.5	1948.4	1969.7	1988.5	1991.0	1992.2	1981.1	1960.7	1933.7	1904.2
27°	1886.3	1912.8	1936.1	1957.8	1975.4	1978.3	1978.7	1967.6	1946.8	1919.8	1889.9
27.5°	1871.9	1900.2	1923.1	1945.1	1963.1	1964.8	1964.8	1953.3	1932.1	1904.7	1874.0
28°	1856.8	1885.8	1909.2	1931.2	1949.2	1949.6	1950.1	1937.8	1916.5	1888.7	1858.0
28.5°	1840.9	1870.7	1894.8	1917.3	1934.5	1934.1	1933.7	1921.4	1899.7	1871.5	1841.3
29°	1823.7	1854.8	1879.3	1902.2	1919.0	1917.7	1917.3	1904.2	1882.6	1854.4	1823.3
29.5°	1806.5	1838.4	1863.3	1886.3	1903.0	1900.2	1899.3	1886.3	1864.2	1835.9	1804.5
30°	1787.7	1820.4	1846.2	1869.9	1885.4	1881.8	1880.5	1867.4	1844.9	1817.1	1784.8
30.5°	1768.5	1801.6	1828.2	1852.3	1867.8	1862.5	1860.9	1847.4	1824.9	1797.1	1764.4
31°	1747.2	1781.1	1809.4	1833.5	1848.6	1841.7	1839.6	1826.1	1804.0	1775.8	1742.3
31.5°	1725.1	1760.3	1789.7	1814.3	1828.6	1820.8	1818.4	1804.0	1782.4	1753.7	1719.0
32°	1701.8	1737.4	1768.1	1794.6	1808.1	1798.7	1794.2	1780.7	1759.1	1730.8	1694.0
32.5°	1676.9	1712.8	1745.2	1773.0	1787.3	1774.6	1769.3	1755.8	1734.5	1706.7	1666.6
33°	1649.4	1687.1	1721.0	1750.9	1764.0	1749.7	1743.5	1729.2	1709.2	1680.9	1638.8
33.5°	1621.2	1658.9	1694.8	1727.6	1740.7	1723.9	1715.7	1701.8	1683.0	1653.9	1609.0
34°	1589.7	1630.2	1668.7	1703.0	1716.1	1696.9	1686.7	1672.4	1654.8	1624.9	1577.1
34.5°	1556.6	1598.7	1639.2	1677.3	1690.3	1667.4	1655.2	1641.3	1624.1	1593.0	1542.3
35°	1521.0	1564.4	1609.0	1649.0	1663.4	1636.0	1621.2	1607.7	1591.4	1557.4	1502.2
35.5°	1484.2	1527.2	1575.4	1618.8	1633.5	1600.8	1585.6	1571.3	1555.4	1517.8	1460.1
36°	1443.7	1487.5	1540.7	1585.6	1602.0	1564.8	1548.0	1532.5	1516.1	1476.0	1415.1
36.5°	1396.3	1444.5	1501.4	1548.0	1567.2	1524.3	1507.5	1492.0	1473.6	1429.8	1365.2
37°	1341.9	1394.6	1458.5	1509.2	1528.0	1484.2	1466.6	1449.5	1427.4	1379.9	1312.9
37.5°	1283.4	1339.0	1412.2	1465.8	1487.1	1439.6	1424.1	1405.7	1375.8	1323.5	1256.4
38°	1225.3	1282.6	1363.2	1422.9	1443.7	1393.8	1381.2	1359.5	1319.4	1263.4	1200.0
38.5°	1165.6	1227.4	1311.2	1372.6	1396.3	1343.9	1336.2	1312.0	1259.7	1202.0	1140.7
39°	1108.4	1175.0	1256.8	1322.7	1339.0	1293.2	1288.7	1261.7	1198.7	1137.8	1078.9
39.5°	1051.9	1121.4	1199.6	1267.0	1274.0	1238.4	1235.6	1208.6	1137.8	1074.8	1015.9
40°	995.5	1069.1	1140.7	1210.6	1209.0	1181.6	1183.2	1152.1	1079.7	1012.7	953.4
40.5°	937.0	1011.4	1082.2	1147.6	1146.8	1121.4	1132.1	1095.3	1023.3	951.3	886.7
41°	877.7	951.3	1023.3	1083.8	1090.0	1062.6	1075.6	1037.2	966.0	891.6	822.1
41.5°	820.0	889.1	962.8	1019.6	1033.5	1001.2	1018.0	976.7	908.0	830.7	759.1
42°	761.9	830.2	903.0	954.2	975.8	943.9	958.7	916.5	847.8	770.5	701.4
42.5°	705.9	772.2	842.9	888.3	917.8	886.3	897.7	856.8	789.8	710.4	639.2
43°	651.9	714.5	782.0	825.7	855.2	829.0	834.3	795.1	730.0	649.9	582.8
43.5°	596.7	658.1	719.4	761.9	794.3	770.5	773.4	735.4	674.0	592.6	526.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	437.6	487.5	532.9	586.5	624.1	595.9	586.9	562.8	509.6	442.1	379.1
45.5°	386.1	433.1	475.7	530.9	568.9	539.9	530.0	505.5	457.7	395.5	332.1
46°	339.1	381.2	422.1	480.2	514.5	485.1	472.0	451.1	408.6	349.3	285.1
46.5°	292.8	331.3	371.4	429.8	458.9	435.2	423.7	401.6	359.5	303.1	238.4
47°	249.1	284.2	323.5	381.6	411.4	384.9	375.5	352.5	310.4	256.4	202.0
47.5°	208.2	238.4	280.2	335.0	364.0	334.6	327.2	303.5	261.3	216.4	168.9
48°	172.2	197.5	239.3	289.2	316.6	284.2	278.9	254.0	219.2	179.5	139.5
48.5°	139.9	160.7	202.4	247.0	269.1	233.9	230.7	212.3	180.4	146.0	112.9
49°	120.2	130.9	169.7	208.6	228.2	191.0	193.0	172.6	144.8	115.7	90.4
49.5°	100.6	110.4	139.1	173.8	188.5	154.6	156.2	138.2	113.7	89.6	70.3
50°	81.0	90.0	118.6	141.9	152.1	122.7	122.7	108.0	86.3	74.4	58.1
50.5°	60.9	69.5	98.6	120.2	119.0	94.1	94.1	81.0	71.2	58.9	46.2
51°	41.7	49.5	78.5	99.0	90.0	77.7	77.3	66.7	56.0	43.8	33.9
51.5°	30.3	37.2	58.5	77.7	74.4	60.9	60.9	52.4	40.9	28.2	21.7
52°	20.9	26.6	38.4	56.4	58.9	44.6	44.2	38.0	25.8	12.7	9.8
52.5°	13.1	17.6	26.2	35.2	42.9	28.2	27.4	23.7	11.0	8.2	6.5
53°	11.0	15.1	16.4	22.5	27.4	12.3	11.0	9.0	7.4	6.1	5.3
53.5°	8.6	12.3	13.5	13.1	12.3	7.8	7.4	6.5	5.7	4.9	4.1
54°	6.1	9.4	10.2	10.6	7.8	6.1	5.7	5.3	4.5	3.7	3.3
54.5°	4.1	6.5	7.4	8.2	6.1	4.9	4.5	4.1	3.3	2.9	2.5
55°	3.3	3.7	4.5	6.1	4.9	3.7	3.7	3.3	2.9	2.5	2.0
55.5°	2.5	2.9	3.3	3.7	3.7	2.9	2.9	2.5	2.0	2.0	1.6
56°	2.0	2.5	2.9	2.9	2.9	2.0	2.0	2.0	1.6	1.6	1.6
56.5°	1.6	2.0	2.0	2.5	2.0	1.6	1.6	1.6	1.6	1.2	1.2
57°	1.6	1.6	1.6	2.0	1.6	1.6	1.6	1.6	1.2	1.2	1.2
57.5°	1.2	1.2	1.6	1.6	1.6	1.2	1.2	1.2	1.2	1.2	1.2
58°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8
58.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
59°	0.8	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8	0.8	0.8
59.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
60°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
60.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
61°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
61.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
62°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4
62.5°	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.4
63°	0.4	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4
63.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
64°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
64.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
65°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
65.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
66°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4



TEST NUMBER: P776504

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
68°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
68.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
69°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
69.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
70.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
71°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
71.5°	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
72°	0.0	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
73°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
73.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776504

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776504

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4
0.5°	2100.2	2099.7	2101.4	2102.2	2102.2	2100.6
1°	2099.7	2098.9	2100.2	2101.0	2101.0	2099.7
1.5°	2098.9	2097.7	2098.9	2099.7	2099.7	2098.9
2°	2098.1	2096.9	2097.7	2098.5	2098.5	2098.1
2.5°	2097.7	2095.7	2096.9	2097.3	2097.7	2097.3
3°	2096.9	2094.8	2095.7	2096.1	2096.1	2096.1
3.5°	2095.7	2093.6	2094.0	2094.8	2094.8	2095.2
4°	2095.2	2092.4	2092.8	2093.6	2093.6	2094.0
4.5°	2094.0	2090.7	2091.6	2092.4	2092.4	2092.8
5°	2093.2	2089.5	2089.9	2090.7	2091.6	2091.6
5.5°	2092.0	2088.3	2088.7	2089.5	2089.9	2090.3
6°	2091.2	2086.7	2087.1	2088.3	2088.7	2089.1
6.5°	2089.9	2085.0	2085.8	2086.7	2087.5	2087.9
7°	2088.3	2083.4	2084.2	2085.4	2086.2	2086.7
7.5°	2087.1	2081.7	2082.6	2083.8	2084.6	2085.0
8°	2085.8	2080.1	2080.9	2082.6	2083.4	2083.4
8.5°	2084.2	2078.1	2078.9	2080.9	2081.7	2081.7
9°	2082.6	2076.0	2077.3	2079.3	2080.1	2080.1
9.5°	2081.3	2074.0	2075.2	2077.7	2078.5	2078.1
10°	2079.3	2071.9	2073.2	2076.0	2076.8	2076.4
10.5°	2077.7	2069.5	2071.1	2074.0	2074.8	2074.4
11°	2075.6	2067.4	2069.1	2072.3	2073.2	2072.3
11.5°	2073.6	2064.6	2066.6	2070.3	2071.1	2070.3
12°	2071.5	2062.1	2064.2	2068.3	2069.1	2068.3
12.5°	2069.1	2059.7	2061.3	2065.8	2067.0	2065.8
13°	2066.6	2056.8	2058.4	2063.3	2064.6	2063.3
13.5°	2063.8	2053.9	2056.0	2060.9	2061.7	2060.9
14°	2061.3	2050.7	2052.7	2058.0	2059.3	2058.0
14.5°	2058.0	2047.4	2049.4	2054.8	2056.4	2055.6
15°	2055.2	2043.7	2046.2	2051.5	2053.1	2052.7
15.5°	2051.9	2040.0	2042.1	2048.2	2049.8	2049.4
16°	2047.8	2035.9	2038.4	2044.1	2046.2	2046.2
16.5°	2044.1	2031.9	2034.3	2040.0	2042.5	2042.9
17°	2040.0	2027.4	2029.4	2035.5	2038.4	2039.2
17.5°	2035.5	2022.4	2024.9	2030.6	2033.9	2035.1
18°	2030.6	2017.1	2019.6	2025.3	2029.0	2031.0
18.5°	2025.3	2012.2	2014.3	2019.6	2023.7	2026.9
19°	2020.0	2006.5	2008.5	2013.4	2018.4	2022.0
19.5°	2014.3	2000.0	2002.4	2006.9	2012.2	2017.1
20°	2007.7	1993.8	1995.9	2000.0	2005.7	2012.2
20.5°	2001.2	1986.9	1988.9	1992.6	1998.7	2006.5
21°	1993.8	1979.5	1981.5	1984.4	1991.8	2000.4

TEST NUMBER: P776504

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1969.7	1954.6	1956.2	1957.4	1966.4	1979.9
23°	1960.7	1945.1	1946.8	1947.2	1957.0	1972.1
23.5°	1950.5	1935.3	1936.6	1937.0	1946.8	1963.6
24°	1940.2	1924.7	1926.3	1925.9	1936.1	1954.6
24.5°	1929.2	1913.2	1914.9	1914.1	1925.1	1945.1
25°	1917.3	1901.4	1903.0	1901.4	1913.2	1934.5
25.5°	1905.1	1888.7	1889.9	1888.7	1900.6	1923.9
26°	1891.6	1875.6	1876.4	1874.8	1887.9	1912.0
26.5°	1877.7	1861.3	1862.5	1860.9	1874.0	1899.7
27°	1862.9	1845.8	1847.8	1845.8	1859.7	1886.3
27.5°	1847.0	1829.8	1832.3	1830.2	1844.1	1871.9
28°	1830.2	1813.0	1815.9	1813.0	1828.2	1856.8
28.5°	1812.6	1795.0	1798.7	1796.7	1811.0	1840.9
29°	1794.6	1776.6	1780.7	1778.3	1793.4	1823.7
29.5°	1775.4	1757.0	1762.3	1760.3	1775.8	1806.5
30°	1755.0	1737.0	1742.3	1740.7	1757.0	1787.7
30.5°	1732.9	1714.5	1722.2	1721.4	1737.4	1768.5
31°	1708.8	1691.6	1700.2	1699.8	1716.5	1747.2
31.5°	1683.4	1665.8	1676.9	1677.7	1694.0	1725.1
32°	1656.4	1639.2	1651.1	1652.3	1669.5	1701.8
32.5°	1627.0	1609.8	1624.5	1626.1	1643.3	1676.9
33°	1597.1	1579.1	1595.1	1597.5	1615.5	1649.4
33.5°	1563.6	1546.0	1566.0	1569.3	1587.7	1621.2
34°	1529.2	1509.2	1534.5	1538.6	1557.4	1589.7
34.5°	1491.6	1469.9	1500.6	1504.7	1524.7	1556.6
35°	1450.3	1426.6	1463.8	1467.4	1488.7	1521.0
35.5°	1403.6	1378.7	1421.6	1427.4	1449.5	1484.2
36°	1354.6	1325.5	1374.6	1382.0	1406.5	1443.7
36.5°	1299.4	1269.9	1321.8	1332.1	1357.8	1396.3
37°	1243.7	1215.9	1264.2	1277.7	1303.9	1341.9
37.5°	1185.2	1163.6	1202.0	1221.2	1245.4	1283.4
38°	1130.0	1109.6	1139.0	1160.7	1186.1	1225.3
38.5°	1073.2	1056.0	1079.3	1100.2	1125.9	1165.6
39°	1018.4	993.4	1021.7	1035.6	1065.0	1108.4
39.5°	961.9	930.4	966.4	973.8	1003.2	1051.9
40°	903.9	866.6	908.8	911.6	939.9	995.5
40.5°	843.3	811.4	848.7	849.1	879.7	937.0
41°	781.2	756.6	789.3	786.9	821.2	877.7
41.5°	718.6	703.5	731.3	724.7	762.8	820.0
42°	658.5	647.4	674.8	666.2	704.7	761.9
42.5°	597.9	591.0	620.0	610.6	645.4	705.9
43°	538.6	535.4	566.9	556.6	588.9	651.9
43.5°	481.8	480.2	514.1	504.7	534.1	596.7



TEST NUMBER: P776504

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	335.0	330.5	363.6	362.4	386.1	437.6
45.5°	285.9	283.4	317.8	321.5	341.5	386.1
46°	236.8	236.8	275.7	283.0	300.6	339.1
46.5°	198.8	195.5	236.8	246.6	262.6	292.8
47°	165.6	157.5	200.4	213.1	226.6	249.1
47.5°	135.8	135.8	166.9	181.6	193.9	208.2
48°	110.4	114.5	137.0	154.2	164.0	172.2
48.5°	87.9	93.2	116.2	132.9	136.6	139.9
49°	69.5	72.0	95.7	112.1	116.2	120.2
49.5°	57.7	50.7	75.7	91.6	95.7	100.6
50°	46.2	38.4	55.2	70.8	74.8	81.0
50.5°	34.8	28.2	40.9	49.9	54.8	60.9
51°	23.3	19.6	29.9	36.4	40.1	41.7
51.5°	11.9	12.3	20.0	24.5	27.8	30.3
52°	7.8	9.8	12.7	15.1	18.0	20.9
52.5°	5.7	7.8	10.2	12.3	15.1	13.1
53°	4.9	6.1	8.2	9.4	12.3	11.0
53.5°	3.7	4.1	6.1	7.0	9.4	8.6
54°	2.9	3.3	4.1	4.1	6.5	6.1
54.5°	2.5	2.5	3.3	3.3	3.7	4.1
55°	2.0	2.0	2.5	2.5	2.9	3.3
55.5°	1.6	1.6	2.0	2.0	2.5	2.5
56°	1.6	1.6	1.6	1.6	2.0	2.0
56.5°	1.2	1.2	1.6	1.6	1.6	1.6
57°	1.2	1.2	1.2	1.2	1.2	1.6
57.5°	1.2	1.2	1.2	1.2	1.2	1.2
58°	0.8	0.8	1.2	1.2	1.2	1.2
58.5°	0.8	0.8	0.8	1.2	1.2	1.2
59°	0.8	0.8	0.8	0.8	0.8	0.8
59.5°	0.8	0.8	0.8	0.8	0.8	0.8
60°	0.8	0.8	0.8	0.8	0.8	0.8
60.5°	0.8	0.8	0.8	0.8	0.8	0.8
61°	0.8	0.8	0.8	0.8	0.8	0.8
61.5°	0.8	0.8	0.8	0.8	0.8	0.8
62°	0.4	0.8	0.8	0.8	0.8	0.8
62.5°	0.4	0.4	0.8	0.8	0.8	0.8
63°	0.4	0.4	0.4	0.4	0.4	0.4
63.5°	0.4	0.4	0.4	0.4	0.4	0.4
64°	0.4	0.4	0.4	0.4	0.4	0.4
64.5°	0.4	0.4	0.4	0.4	0.4	0.4
65°	0.4	0.4	0.4	0.4	0.4	0.4
65.5°	0.4	0.4	0.4	0.4	0.4	0.4
66°	0.4	0.4	0.4	0.4	0.4	0.4



TEST NUMBER: P776504

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.4	0.4	0.4	0.4	0.4	0.4
68°	0.4	0.4	0.4	0.4	0.4	0.4
68.5°	0.4	0.4	0.4	0.4	0.4	0.4
69°	0.4	0.4	0.4	0.4	0.4	0.4
69.5°	0.4	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4	0.4
70.5°	0.4	0.4	0.4	0.4	0.4	0.4
71°	0.4	0.4	0.4	0.4	0.4	0.4
71.5°	0.0	0.4	0.4	0.4	0.4	0.4
72°	0.0	0.0	0.4	0.4	0.4	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0
73°	0.0	0.0	0.0	0.0	0.0	0.0
73.5°	0.0	0.0	0.0	0.0	0.0	0.0
74°	0.0	0.0	0.0	0.0	0.0	0.0
74.5°	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776504

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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21.5°	1994.2	2010.2	2033.1	2054.8	2070.3	2078.9	2082.2	2074.0	2058.0	2035.9	2011.0
22°	1987.3	2004.0	2026.9	2048.6	2065.4	2073.2	2076.0	2067.8	2051.1	2028.6	2003.2



44°	542.3	602.0	655.6	701.8	735.4	712.0	708.8	678.1	618.8	538.6	472.8
44.5°	489.1	544.8	592.6	642.1	678.1	653.6	649.5	620.0	564.8	488.3	425.8



66.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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21.5°	1986.5	1971.7	1973.8	1976.2	1983.6	1994.2
22°	1978.3	1963.6	1965.2	1967.2	1975.4	1987.3



44°	432.7	427.8	463.0	453.6	481.8	542.3
44.5°	384.0	378.7	411.9	406.5	432.7	489.1

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66.5°	0.4	0.4	0.4	0.4	0.4	0.4
67°	0.4	0.4	0.4	0.4	0.4	0.4

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89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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(END OF REPORT)