

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: P776685

Luminaire Tested: HCDJBS4050CSD-HCD62TRMB-5000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776685
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B058)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD62TRMB-5000lm-2700K
Description: 6 INCH ROUND NARROW MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

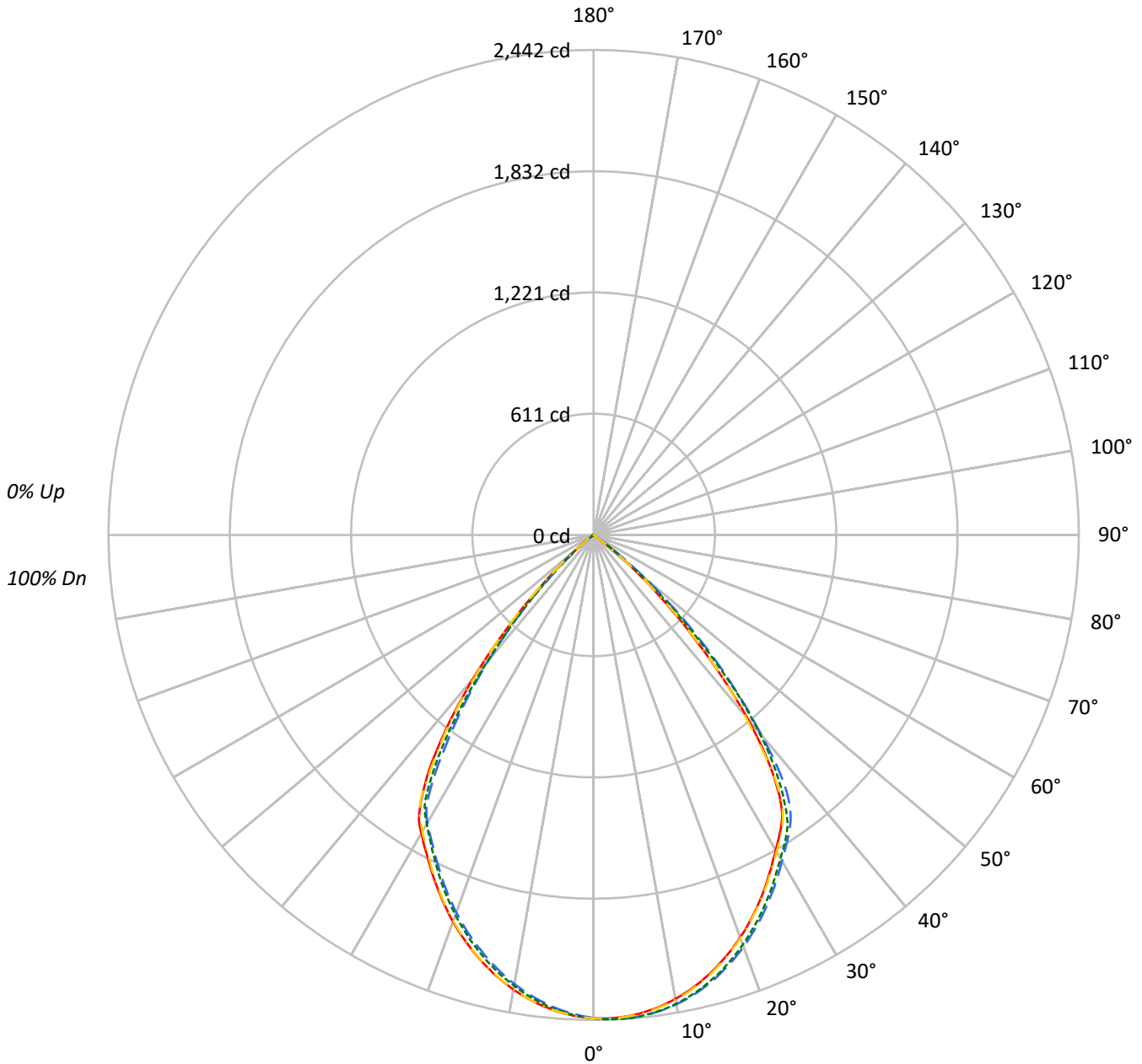
Lumens per Lamp: N/A
Luminaire Lumens: 3178.3 lumens
Efficiency: N/A
Efficacy: 66.2 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.11 / 1.11
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 48
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										
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								
1	113	110	107	105	111	108	105	103	104	102	100	100	98	97	97	95	94	92								
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85								
3	101	94	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77								
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	75	72	71								
5	89	80	73	69	87	79	73	68	77	72	68	75	71	67	74	70	66	65								
6	84	74	67	63	82	73	67	62	72	66	62	70	65	62	69	64	61	60								
7	79	69	62	57	78	68	62	57	67	61	57	65	60	57	64	60	56	55								
8	75	64	57	53	73	63	57	53	62	57	52	61	56	52	60	56	52	51								
9	70	60	53	49	69	59	53	49	58	53	49	57	52	48	56	52	48	47								
10	67	56	50	45	66	55	49	45	55	49	45	54	49	45	53	48	45	43								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	133421	133421	133421	133421
5°	133408	134107	132049	131576
10°	132056	133425	129390	128377
15°	129484	131374	125580	124053
20°	125813	128099	120866	118818
25°	121180	123799	115253	112525
30°	116081	119056	109878	106415
35°	109848	112899	96423	91049
40°	85947	92502	67476	59805
45°	50548	58363	34073	29902
50°	19906	24067	9953	9995
55°	2915	3794	832	1004
60°	647	702	603	504
65°	467	467	415	350
70°	369	369	289	289
75°	297	297	191	191
80°	158	158	158	158
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 64549 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	228.2	7.2
10°-20°	632.1	19.9
20°-30°	898.7	28.3
30°-40°	928.0	29.2
40°-50°	443.5	14.0
50°-60°	42.9	1.3
60°-70°	3.5	0.1
70°-80°	1.3	0.0
80°-90°	0.2	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°	1759.0	55.3
0°-40°	2687.0	84.5
0°-60°	3173.3	99.8
0°-90°	3178.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3178.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2434	2434	2434	2434	2434	
5°	2424	2437	2400	2391	2424	230
15°	2282	2315	2213	2186	2282	642
25°	2003	2047	1905	1860	2003	921
35°	1641	1687	1441	1360	1641	994
45°	652	753	440	386	652	511
55°	30	40	9	10	30	55
65°	4	4	3	3	4	4
75°	1	1	1	1	1	1
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°	2433.8	2433.8	2433.8	2433.8	2433.8	2433.8	2433.8	2433.8	2433.8	2433.8	2433.8
0.5°	2434.3	2434.3	2434.7	2433.8	2437.5	2436.6	2435.2	2434.7	2432.0	2430.6	2428.8
1°	2435.2	2435.7	2436.6	2436.1	2439.3	2437.5	2436.1	2434.3	2430.2	2427.9	2426.1
1.5°	2435.2	2436.6	2437.9	2437.9	2440.2	2438.4	2436.6	2433.4	2427.4	2424.7	2422.0
2°	2435.2	2437.5	2439.3	2439.8	2441.6	2439.3	2436.1	2431.6	2425.2	2421.1	2417.9
2.5°	2434.3	2437.5	2440.2	2440.7	2441.6	2439.3	2435.7	2429.3	2422.0	2417.4	2413.3
3°	2432.9	2437.5	2440.2	2441.1	2441.6	2438.8	2434.3	2427.4	2418.3	2412.9	2408.3
3.5°	2431.6	2436.6	2440.2	2441.6	2441.1	2437.9	2432.9	2424.7	2414.7	2408.3	2402.8
4°	2429.7	2435.2	2439.3	2441.1	2440.2	2437.0	2431.1	2421.1	2410.1	2402.8	2396.9
4.5°	2427.4	2433.4	2438.4	2440.7	2439.3	2435.2	2428.8	2417.4	2405.6	2396.9	2391.0
5°	2424.3	2431.1	2437.0	2439.3	2437.0	2432.9	2426.1	2413.3	2399.6	2391.0	2384.6
5.5°	2421.1	2429.3	2435.7	2437.9	2434.7	2430.6	2422.9	2409.2	2393.7	2384.1	2377.3
6°	2417.4	2426.5	2433.4	2435.7	2432.5	2427.9	2419.2	2405.1	2387.8	2377.8	2369.5
6.5°	2412.9	2423.3	2430.6	2433.8	2429.3	2424.3	2415.6	2399.6	2381.4	2370.5	2361.3
7°	2408.3	2419.2	2427.4	2431.1	2426.1	2420.6	2411.0	2394.2	2374.6	2362.2	2353.1
7.5°	2403.3	2415.1	2423.8	2427.9	2422.0	2416.5	2406.5	2388.2	2367.3	2354.0	2344.5
8°	2398.3	2410.6	2420.2	2424.7	2418.3	2411.9	2401.0	2381.9	2359.1	2345.8	2335.8
8.5°	2392.3	2405.6	2415.6	2420.2	2413.3	2406.9	2395.5	2375.0	2350.9	2336.7	2326.2
9°	2386.0	2400.5	2411.0	2416.1	2408.3	2401.9	2389.1	2367.3	2343.1	2327.6	2316.7
9.5°	2379.6	2394.6	2406.0	2411.0	2402.8	2395.5	2382.8	2360.0	2334.0	2318.0	2306.2
10°	2372.3	2388.2	2400.1	2405.6	2396.9	2389.6	2375.9	2351.3	2324.4	2308.0	2296.1
10.5°	2365.0	2381.4	2394.2	2400.1	2390.5	2383.2	2368.6	2343.1	2314.8	2297.0	2285.2
11°	2357.2	2374.6	2388.2	2393.7	2383.7	2375.9	2360.9	2334.4	2304.8	2286.6	2273.8
11.5°	2349.5	2367.3	2380.9	2387.3	2376.4	2368.2	2353.1	2325.3	2294.8	2275.6	2261.9
12°	2340.8	2359.1	2374.1	2380.5	2368.6	2360.9	2344.5	2315.7	2283.8	2264.7	2250.5
12.5°	2331.2	2350.9	2366.4	2373.2	2360.9	2352.7	2335.3	2305.7	2272.9	2252.8	2237.8
13°	2322.1	2342.2	2358.1	2365.4	2352.2	2344.5	2326.2	2295.7	2261.5	2240.5	2225.9
13.5°	2312.6	2333.5	2349.5	2357.7	2343.6	2334.9	2317.1	2284.3	2249.2	2228.7	2213.2
14°	2302.5	2324.4	2340.8	2348.6	2334.4	2325.8	2306.6	2273.8	2237.3	2215.9	2199.9
14.5°	2292.0	2314.8	2331.2	2339.9	2324.4	2315.3	2296.1	2262.4	2225.0	2203.1	2186.3
15°	2281.5	2304.8	2322.1	2330.3	2314.8	2304.8	2285.7	2250.1	2212.7	2189.9	2172.6
15.5°	2270.6	2293.9	2312.6	2320.3	2304.8	2293.9	2274.3	2238.2	2199.9	2176.2	2159.4
16°	2258.7	2282.9	2301.6	2310.3	2293.9	2282.9	2262.9	2225.9	2186.3	2162.5	2145.2
16.5°	2246.9	2272.0	2290.7	2299.8	2282.9	2272.0	2251.5	2213.2	2173.0	2148.0	2131.1
17°	2235.0	2260.6	2279.3	2289.3	2271.1	2260.6	2239.1	2200.4	2159.4	2134.3	2116.0
17.5°	2222.7	2248.7	2268.3	2277.9	2259.2	2248.3	2226.8	2187.6	2145.2	2120.1	2101.0
18°	2210.4	2236.4	2256.5	2266.0	2246.9	2236.0	2214.1	2173.9	2131.1	2105.1	2085.5
18.5°	2197.7	2223.6	2244.2	2254.2	2234.6	2222.7	2200.4	2160.3	2116.5	2090.0	2070.4
19°	2183.5	2211.3	2232.3	2242.3	2221.8	2210.4	2187.6	2146.1	2101.9	2074.5	2054.9
19.5°	2170.3	2198.6	2219.5	2229.6	2209.1	2196.7	2174.4	2132.0	2086.9	2059.5	2038.5
20°	2156.6	2185.3	2206.8	2216.8	2195.8	2183.5	2160.7	2117.0	2071.8	2043.5	2022.1
20.5°	2142.5	2171.7	2193.5	2203.6	2182.2	2169.4	2146.6	2102.8	2055.9	2027.1	2005.7
21°	2128.8	2158.0	2179.9	2190.4	2167.6	2155.7	2132.0	2087.3	2039.9	2011.2	1988.8



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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°	2083.7	2114.7	2137.5	2147.5	2124.2	2111.9	2087.3	2040.8	1991.1	1960.6	1937.8
23°	2068.2	2098.7	2122.9	2133.4	2109.2	2096.9	2071.8	2024.8	1973.8	1943.2	1919.5
23.5°	2052.2	2083.7	2107.8	2117.9	2093.7	2081.4	2056.3	2008.4	1956.9	1925.9	1901.7
24°	2035.8	2067.7	2092.8	2103.7	2078.2	2065.9	2040.4	1992.0	1939.6	1908.6	1883.5
24.5°	2019.8	2052.7	2077.3	2088.2	2062.2	2049.9	2024.4	1975.6	1922.7	1890.3	1865.7
25°	2003.4	2036.2	2061.8	2072.3	2046.7	2034.0	2008.0	1958.7	1905.4	1873.0	1847.0
25.5°	1986.6	2019.8	2045.4	2056.3	2030.3	2017.6	1991.6	1941.9	1887.6	1854.8	1828.8
26°	1970.1	2004.3	2029.4	2040.4	2014.4	2001.1	1975.2	1924.5	1870.3	1837.0	1810.6
26.5°	1952.8	1987.9	2013.0	2024.4	1997.9	1984.3	1958.3	1907.7	1853.0	1818.8	1793.2
27°	1935.9	1971.5	1996.6	2008.0	1981.5	1967.9	1941.4	1890.3	1834.7	1801.4	1775.0
27.5°	1918.6	1954.2	1980.2	1991.1	1964.7	1951.0	1924.5	1872.6	1817.9	1784.1	1757.7
28°	1901.7	1937.3	1963.3	1974.7	1947.3	1934.6	1907.2	1855.7	1801.0	1767.7	1740.3
28.5°	1884.0	1920.4	1946.9	1957.4	1930.0	1917.2	1890.3	1839.3	1785.0	1750.8	1724.4
29°	1866.6	1903.6	1930.0	1941.0	1913.6	1900.4	1873.9	1822.4	1768.6	1734.0	1707.1
29.5°	1850.2	1886.7	1913.1	1924.5	1897.2	1884.0	1858.0	1806.5	1751.7	1717.1	1690.2
30°	1833.8	1870.3	1896.7	1907.7	1880.8	1868.0	1841.6	1790.0	1735.8	1700.7	1673.3
30.5°	1817.4	1853.9	1880.3	1891.3	1864.8	1851.6	1826.1	1774.5	1719.4	1683.3	1654.6
31°	1801.4	1838.4	1864.8	1875.3	1849.8	1836.1	1810.1	1758.6	1702.0	1665.1	1635.5
31.5°	1785.0	1822.4	1848.9	1859.8	1833.8	1820.6	1794.6	1742.2	1683.8	1642.8	1610.9
32°	1769.1	1806.5	1832.9	1843.8	1818.3	1805.1	1778.6	1724.8	1657.4	1612.7	1577.6
32.5°	1753.1	1790.5	1817.9	1828.8	1802.3	1789.6	1762.2	1706.1	1627.7	1577.6	1539.3
33°	1736.2	1774.5	1801.9	1812.4	1785.9	1771.8	1744.4	1683.8	1594.4	1537.4	1495.5
33.5°	1718.0	1758.1	1785.9	1797.3	1767.2	1754.0	1725.3	1656.4	1558.9	1494.6	1450.4
34°	1698.4	1739.9	1768.2	1780.0	1745.4	1733.0	1703.9	1625.9	1522.4	1449.0	1402.0
34.5°	1671.9	1720.3	1749.9	1761.3	1717.5	1708.4	1680.2	1591.2	1482.7	1404.3	1354.2
35°	1641.4	1697.0	1728.5	1738.1	1687.0	1679.2	1652.8	1555.2	1440.8	1359.2	1304.9
35.5°	1608.1	1671.0	1705.2	1710.7	1654.2	1647.3	1621.8	1516.5	1397.0	1313.6	1258.0
36°	1571.2	1639.6	1677.0	1679.7	1621.3	1612.7	1585.8	1475.4	1349.1	1269.3	1207.8
36.5°	1534.3	1605.8	1646.4	1646.4	1586.2	1574.8	1543.4	1431.2	1300.4	1225.1	1159.9
37°	1493.7	1566.6	1610.9	1611.3	1550.7	1535.2	1495.0	1385.6	1249.7	1177.2	1111.6
37.5°	1450.8	1524.7	1571.2	1575.7	1512.4	1492.3	1443.1	1335.9	1201.0	1129.8	1063.7
38°	1404.8	1477.3	1524.7	1537.9	1473.6	1448.1	1387.0	1283.9	1149.9	1079.2	1014.0
38.5°	1356.4	1427.6	1476.8	1497.8	1430.3	1401.6	1333.2	1228.8	1098.8	1029.1	963.9
39°	1305.8	1373.3	1424.4	1455.8	1386.5	1351.9	1279.4	1175.0	1046.8	976.6	914.6
39.5°	1254.3	1320.0	1369.2	1410.7	1340.0	1301.3	1228.8	1117.5	996.2	925.6	865.8
40°	1201.0	1264.3	1314.9	1364.6	1292.6	1247.0	1177.7	1060.5	942.9	874.0	816.1
40.5°	1146.7	1206.9	1261.1	1316.8	1242.9	1193.2	1128.9	1004.0	890.9	825.7	768.3
41°	1089.3	1149.4	1208.3	1265.7	1194.1	1140.3	1078.3	948.4	838.0	775.6	720.8
41.5°	1032.3	1096.1	1156.7	1213.7	1141.7	1087.9	1027.2	892.7	784.7	728.1	674.3
42°	973.9	1042.3	1104.3	1159.0	1088.8	1036.4	974.4	839.4	730.4	679.8	627.8
42.5°	917.8	988.5	1053.7	1105.7	1032.7	985.3	920.1	787.4	677.5	631.9	581.3
43°	861.7	934.7	1001.3	1050.5	977.1	933.8	867.2	736.4	625.6	583.2	536.2
43.5°	808.4	881.8	949.7	996.7	919.6	882.7	815.7	685.7	575.9	536.6	492.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	652.0	724.0	792.0	832.6	752.8	727.7	666.6	546.2	439.5	405.3	369.8
45.5°	604.1	673.4	742.7	780.1	697.6	677.1	618.3	502.5	398.5	363.4	328.7
46°	555.3	624.6	692.6	727.2	645.2	627.4	570.8	462.3	357.5	321.0	287.7
46.5°	507.9	578.1	644.7	676.2	592.7	579.0	524.8	422.2	316.4	279.0	252.6
47°	462.3	533.5	596.8	625.6	542.6	530.7	477.8	382.1	281.8	243.9	218.9
47.5°	418.6	489.7	550.3	575.4	493.8	483.8	436.8	342.0	248.5	210.2	188.3
48°	377.1	447.3	504.7	526.2	451.4	439.5	395.8	301.8	217.5	178.3	160.5
48.5°	337.4	406.7	458.7	478.7	409.0	395.3	354.7	265.8	189.2	150.9	135.4
49°	300.0	367.0	414.9	431.8	366.6	351.1	314.1	232.5	162.8	126.3	113.1
49.5°	265.4	329.2	372.5	388.5	324.2	306.9	279.0	202.4	139.1	104.4	93.9
50°	233.4	292.7	331.5	346.1	282.2	266.7	243.0	173.3	116.7	86.2	77.1
50.5°	203.8	257.2	293.2	305.5	245.3	229.8	209.7	146.8	97.1	71.1	63.4
51°	175.5	223.4	254.9	268.1	211.6	194.7	178.3	123.6	79.3	61.1	54.3
51.5°	151.4	191.0	219.8	231.6	180.6	164.1	150.0	102.1	68.4	50.6	45.1
52°	130.9	161.9	187.8	198.8	150.9	135.9	121.7	83.0	57.4	40.6	36.0
52.5°	110.3	140.4	156.8	167.3	124.0	110.3	97.6	71.1	46.5	30.5	26.9
53°	89.8	118.5	135.0	144.5	99.4	88.5	76.6	59.3	35.6	20.5	17.8
53.5°	69.3	96.7	113.1	121.7	78.0	70.2	64.3	47.9	24.6	15.0	12.8
54°	54.7	74.8	91.2	99.4	65.2	58.4	52.0	36.5	13.7	10.9	9.6
54.5°	41.5	53.3	69.3	76.6	52.4	47.0	40.1	24.6	10.0	8.7	8.2
55°	30.5	38.8	47.4	54.3	39.7	35.6	27.8	13.2	8.7	7.8	7.8
55.5°	21.0	27.8	34.2	39.7	26.4	24.2	15.5	9.6	7.8	7.8	7.3
56°	14.1	18.7	23.3	27.8	13.7	12.8	10.9	8.2	7.8	7.3	6.8
56.5°	12.3	16.4	15.5	18.2	10.0	9.6	8.7	7.8	7.3	6.8	6.8
57°	10.5	14.1	13.7	15.5	8.7	8.2	8.2	7.8	6.8	6.8	6.4
57.5°	8.7	11.9	11.4	12.8	8.2	7.8	7.8	7.3	6.8	6.4	5.9
58°	7.3	9.6	9.6	10.5	7.8	7.8	7.3	6.8	6.4	5.9	5.9
58.5°	6.8	7.3	7.8	7.8	7.3	7.3	7.3	6.8	5.9	5.9	5.5
59°	6.4	6.8	7.3	7.3	6.8	6.8	6.8	6.4	5.9	5.5	5.5
59.5°	6.4	6.8	6.8	7.3	6.8	6.8	6.4	5.9	5.5	5.5	5.0
60°	5.9	6.4	6.8	6.8	6.4	6.4	6.4	5.9	5.5	5.0	5.0
60.5°	5.5	5.9	6.4	6.4	5.9	5.9	5.9	5.5	5.0	5.0	4.6
61°	5.5	5.9	5.9	6.4	5.9	5.9	5.5	5.0	4.6	4.6	4.6
61.5°	5.0	5.5	5.9	5.9	5.5	5.5	5.5	5.0	4.6	4.6	4.1
62°	5.0	5.0	5.5	5.5	5.0	5.0	5.0	4.6	4.1	4.1	4.1
62.5°	4.6	5.0	5.0	5.5	5.0	5.0	5.0	4.6	4.1	4.1	3.6
63°	4.6	4.6	5.0	5.0	4.6	4.6	4.6	4.1	4.1	3.6	3.6
63.5°	4.1	4.6	4.6	5.0	4.6	4.6	4.6	4.1	3.6	3.6	3.6
64°	4.1	4.1	4.6	4.6	4.1	4.1	4.1	3.6	3.6	3.6	3.2
64.5°	3.6	4.1	4.1	4.6	4.1	4.1	4.1	3.6	3.2	3.2	3.2
65°	3.6	3.6	4.1	4.1	3.6	3.6	3.6	3.6	3.2	3.2	3.2
65.5°	3.2	3.6	3.6	4.1	3.6	3.6	3.6	3.2	3.2	3.2	2.7
66°	3.2	3.6	3.6	3.6	3.6	3.6	3.2	3.2	2.7	2.7	2.7



TEST NUMBER: P776685

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	2.7	2.7	3.2	3.2	3.2	3.2	2.7	2.7	2.3	2.3	2.3
68°	2.7	2.7	3.2	3.2	2.7	2.7	2.7	2.7	2.3	2.3	2.3
68.5°	2.3	2.7	2.7	2.7	2.7	2.7	2.7	2.3	2.3	2.3	2.3
69°	2.3	2.7	2.7	2.7	2.7	2.7	2.7	2.3	2.3	2.3	1.8
69.5°	2.3	2.3	2.7	2.7	2.3	2.3	2.3	2.3	1.8	1.8	1.8
70°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.8	1.8	1.8
70.5°	1.8	2.3	2.3	2.3	2.3	2.3	2.3	1.8	1.8	1.8	1.8
71°	1.8	2.3	2.3	2.3	2.3	2.3	1.8	1.8	1.8	1.8	1.8
71.5°	1.8	1.8	2.3	2.3	1.8	1.8	1.8	1.8	1.4	1.4	1.4
72°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.4	1.4	1.4
72.5°	1.4	1.8	1.8	1.8	1.8	1.8	1.8	1.4	1.4	1.4	1.4
73°	1.4	1.8	1.8	1.8	1.8	1.8	1.8	1.4	1.4	1.4	1.4
73.5°	1.4	1.4	1.8	1.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4
74°	1.4	1.4	1.4	1.8	1.4	1.4	1.4	1.4	1.4	0.9	0.9
74.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9
75°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9
75.5°	0.9	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9	0.9
76°	0.9	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9	0.9
76.5°	0.9	0.9	1.4	1.4	0.9	0.9	0.9	0.9	0.9	0.9	0.9
77°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.9
78°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5
78.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5
79°	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5
79.5°	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.9	0.9	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.9	0.5	0.5	0.5	0.5	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0
83°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0
83.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
84°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.5	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: P776685
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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: P776685

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2433.8	2433.8	2433.8	2433.8	2433.8	2433.8
0.5°	2427.9	2432.9	2432.5	2432.5	2434.3	2434.3
1°	2424.3	2429.7	2429.7	2430.6	2433.4	2435.2
1.5°	2420.2	2426.5	2426.5	2428.4	2432.0	2435.2
2°	2415.6	2422.9	2423.3	2425.6	2430.6	2435.2
2.5°	2410.6	2418.3	2419.2	2422.0	2428.8	2434.3
3°	2405.6	2413.8	2415.1	2418.3	2426.1	2432.9
3.5°	2399.6	2408.8	2410.1	2414.2	2422.9	2431.6
4°	2393.3	2403.3	2405.1	2409.7	2419.7	2429.7
4.5°	2386.9	2397.4	2399.6	2404.7	2416.1	2427.4
5°	2380.5	2391.0	2393.7	2399.2	2411.9	2424.3
5.5°	2372.7	2384.6	2387.3	2393.7	2406.9	2421.1
6°	2365.0	2377.3	2380.0	2387.3	2401.9	2417.4
6.5°	2356.8	2370.0	2373.2	2380.5	2396.9	2412.9
7°	2348.6	2362.2	2365.9	2373.6	2391.0	2408.3
7.5°	2339.5	2354.0	2357.7	2366.4	2384.6	2403.3
8°	2329.9	2345.4	2349.5	2358.1	2377.8	2398.3
8.5°	2320.3	2335.8	2340.4	2350.4	2370.9	2392.3
9°	2309.8	2326.2	2331.2	2341.7	2363.6	2386.0
9.5°	2299.3	2316.7	2321.7	2332.2	2355.9	2379.6
10°	2289.3	2306.2	2311.6	2323.0	2347.2	2372.3
10.5°	2277.9	2296.1	2301.6	2313.0	2338.5	2365.0
11°	2266.5	2284.7	2290.7	2303.4	2329.0	2357.2
11.5°	2254.6	2273.8	2279.7	2292.9	2320.3	2349.5
12°	2242.3	2262.4	2268.3	2282.0	2310.7	2340.8
12.5°	2230.0	2250.1	2256.9	2270.6	2300.2	2331.2
13°	2217.3	2238.2	2245.1	2259.2	2289.3	2322.1
13.5°	2204.0	2225.5	2232.8	2247.4	2279.3	2312.6
14°	2190.8	2212.7	2220.4	2235.5	2267.9	2302.5
14.5°	2177.6	2199.5	2207.7	2223.2	2256.9	2292.0
15°	2163.5	2185.8	2194.0	2210.4	2244.6	2281.5
15.5°	2149.3	2172.6	2180.8	2197.2	2232.8	2270.6
16°	2135.2	2158.4	2166.6	2184.0	2220.4	2258.7
16.5°	2120.1	2143.9	2152.5	2170.8	2207.7	2246.9
17°	2105.6	2129.7	2138.4	2157.1	2194.5	2235.0
17.5°	2090.0	2114.7	2123.8	2142.5	2181.2	2222.7
18°	2074.5	2099.6	2109.2	2128.3	2168.0	2210.4
18.5°	2059.5	2084.1	2093.7	2113.3	2153.9	2197.7
19°	2043.1	2068.6	2078.2	2098.3	2139.7	2183.5
19.5°	2026.7	2052.7	2062.7	2083.2	2125.6	2170.3
20°	2009.8	2036.7	2046.3	2067.7	2110.6	2156.6
20.5°	1993.4	2019.8	2030.3	2052.2	2096.0	2142.5
21°	1976.5	2003.0	2013.5	2035.8	2080.5	2128.8

TEST NUMBER: P776685

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1923.6	1951.4	1962.4	1986.1	2034.0	2083.7
23°	1905.4	1933.7	1945.1	1969.2	2017.1	2068.2
23.5°	1887.6	1915.4	1927.3	1951.9	2000.7	2052.2
24°	1868.9	1897.2	1909.5	1934.6	1983.8	2035.8
24.5°	1851.1	1878.9	1891.7	1916.8	1967.4	2019.8
25°	1832.4	1860.3	1873.0	1898.6	1950.1	2003.4
25.5°	1813.7	1842.0	1855.2	1880.8	1932.7	1986.6
26°	1795.5	1823.3	1836.5	1863.0	1915.4	1970.1
26.5°	1777.3	1805.1	1818.3	1844.8	1897.6	1952.8
27°	1759.0	1786.4	1800.1	1826.5	1880.3	1935.9
27.5°	1741.7	1768.2	1781.8	1809.2	1862.5	1918.6
28°	1724.4	1749.9	1763.6	1791.4	1845.2	1901.7
28.5°	1707.1	1732.6	1746.3	1774.1	1827.4	1884.0
29°	1690.2	1715.7	1729.4	1757.2	1810.6	1866.6
29.5°	1672.9	1698.4	1712.1	1740.8	1794.1	1850.2
30°	1655.5	1681.1	1695.2	1724.4	1777.3	1833.8
30.5°	1636.8	1663.3	1677.9	1707.1	1761.3	1817.4
31°	1617.2	1646.0	1660.6	1689.7	1745.4	1801.4
31.5°	1588.5	1627.3	1641.9	1672.4	1728.9	1785.0
32°	1554.8	1605.4	1620.4	1653.3	1711.6	1769.1
32.5°	1516.9	1573.5	1590.3	1629.5	1693.8	1753.1
33°	1473.2	1534.7	1555.7	1599.5	1674.2	1736.2
33.5°	1427.6	1492.3	1517.4	1560.7	1646.4	1718.0
34°	1380.6	1450.4	1474.5	1514.2	1614.5	1698.4
34.5°	1333.6	1406.1	1428.0	1467.2	1578.0	1671.9
35°	1285.3	1360.5	1377.0	1419.4	1537.4	1641.4
35.5°	1234.2	1314.5	1325.4	1372.4	1496.4	1608.1
36°	1182.3	1263.9	1274.8	1326.3	1453.1	1571.2
36.5°	1128.9	1212.8	1222.8	1280.3	1406.6	1534.3
37°	1076.5	1159.0	1172.2	1234.2	1359.2	1493.7
37.5°	1023.6	1106.1	1122.5	1185.9	1309.9	1450.8
38°	973.0	1051.0	1071.5	1133.9	1261.1	1404.8
38.5°	922.4	998.1	1021.8	1082.0	1211.0	1356.4
39°	872.2	944.7	971.6	1029.1	1163.6	1305.8
39.5°	822.5	890.9	920.6	976.2	1114.3	1254.3
40°	772.4	835.7	869.5	923.3	1065.1	1201.0
40.5°	722.2	783.3	818.9	874.5	1012.2	1146.7
41°	673.0	732.7	768.7	825.3	960.7	1089.3
41.5°	625.6	683.5	719.9	777.8	906.0	1032.3
42°	577.2	636.5	672.5	731.3	851.7	973.9
42.5°	533.0	589.1	625.6	683.9	797.9	917.8
43°	490.6	545.8	580.0	635.1	745.0	861.7
43.5°	453.2	502.5	535.3	587.3	692.6	808.4



TEST NUMBER: P776685

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	342.0	385.7	406.7	450.9	541.7	652.0
45.5°	305.0	350.6	367.9	409.0	493.8	604.1
46°	270.4	316.9	331.5	368.4	447.7	555.3
46.5°	240.7	285.0	295.9	327.8	403.1	507.9
47°	212.9	255.8	263.1	289.5	359.7	462.3
47.5°	187.4	227.5	231.6	252.6	320.1	418.6
48°	162.8	201.1	202.9	216.6	282.7	377.1
48.5°	140.0	176.5	176.0	184.2	248.5	337.4
49°	119.5	155.0	153.7	154.1	216.6	300.0
49.5°	100.8	135.9	134.0	133.6	187.4	265.4
50°	83.9	117.2	114.0	113.5	160.0	233.4
50.5°	68.8	98.0	94.4	93.0	140.4	203.8
51°	58.4	79.3	74.3	73.0	120.8	175.5
51.5°	47.9	64.7	60.2	59.7	101.2	151.4
52°	37.8	52.0	48.3	48.3	81.2	130.9
52.5°	27.4	40.1	37.4	38.8	62.0	110.3
53°	16.9	29.6	28.3	30.1	49.2	89.8
53.5°	11.4	21.0	20.5	22.3	38.3	69.3
54°	8.7	14.1	14.1	16.0	28.7	54.7
54.5°	7.8	12.3	12.3	13.7	21.0	41.5
55°	7.3	10.5	10.5	11.4	14.6	30.5
55.5°	6.8	8.7	8.7	9.1	12.8	21.0
56°	6.8	6.8	6.8	7.3	10.9	14.1
56.5°	6.4	6.8	6.4	6.8	8.7	12.3
57°	5.9	6.4	6.4	6.4	6.8	10.5
57.5°	5.9	5.9	5.9	6.4	6.8	8.7
58°	5.5	5.9	5.9	5.9	6.4	7.3
58.5°	5.5	5.5	5.5	5.5	6.4	6.8
59°	5.0	5.5	5.0	5.5	5.9	6.4
59.5°	5.0	5.0	5.0	5.0	5.5	6.4
60°	4.6	4.6	4.6	4.6	5.5	5.9
60.5°	4.6	4.6	4.6	4.6	5.0	5.5
61°	4.1	4.1	4.1	4.1	4.6	5.5
61.5°	4.1	4.1	4.1	4.1	4.6	5.0
62°	3.6	4.1	3.6	4.1	4.1	5.0
62.5°	3.6	3.6	3.6	3.6	4.1	4.6
63°	3.2	3.6	3.6	3.6	3.6	4.6
63.5°	3.2	3.2	3.2	3.2	3.6	4.1
64°	3.2	3.2	3.2	3.2	3.6	4.1
64.5°	2.7	3.2	2.7	3.2	3.2	3.6
65°	2.7	2.7	2.7	2.7	3.2	3.6
65.5°	2.7	2.7	2.7	2.7	3.2	3.2
66°	2.7	2.7	2.7	2.7	2.7	3.2



TEST NUMBER: P776685

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	2.3	2.3	2.3	2.3	2.3	2.7
68°	2.3	2.3	1.8	2.3	2.3	2.7
68.5°	1.8	1.8	1.8	1.8	2.3	2.3
69°	1.8	1.8	1.8	1.8	2.3	2.3
69.5°	1.8	1.8	1.8	1.8	1.8	2.3
70°	1.8	1.8	1.8	1.8	1.8	2.3
70.5°	1.4	1.8	1.4	1.4	1.8	1.8
71°	1.4	1.4	1.4	1.4	1.8	1.8
71.5°	1.4	1.4	1.4	1.4	1.4	1.8
72°	1.4	1.4	1.4	1.4	1.4	1.8
72.5°	1.4	1.4	1.4	1.4	1.4	1.4
73°	1.4	1.4	1.4	1.4	1.4	1.4
73.5°	0.9	0.9	0.9	0.9	1.4	1.4
74°	0.9	0.9	0.9	0.9	1.4	1.4
74.5°	0.9	0.9	0.9	0.9	0.9	1.4
75°	0.9	0.9	0.9	0.9	0.9	1.4
75.5°	0.9	0.9	0.9	0.9	0.9	0.9
76°	0.9	0.9	0.9	0.9	0.9	0.9
76.5°	0.9	0.9	0.9	0.9	0.9	0.9
77°	0.9	0.9	0.5	0.5	0.9	0.9
77.5°	0.5	0.5	0.5	0.5	0.9	0.9
78°	0.5	0.5	0.5	0.5	0.5	0.9
78.5°	0.5	0.5	0.5	0.5	0.5	0.9
79°	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.5	0.5	0.0	0.5	0.5
83°	0.0	0.0	0.0	0.0	0.0	0.5
83.5°	0.0	0.0	0.0	0.0	0.0	0.5
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: P776685

CATALOG NUMBER: HCDJBL54050CSD-HCD62TRMB-5000lm-2700K

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
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





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

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Scaled Data Report



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Scaled Data Report





21.5°	2113.8	2142.9	2165.3	2176.2	2153.4	2141.6	2117.4	2071.8	2023.5	1994.8	1972.0
22°	2098.3	2128.8	2152.1	2162.1	2138.8	2126.5	2102.4	2056.3	2007.5	1977.9	1954.6



44°	755.0	828.5	896.8	941.5	864.5	831.2	765.1	637.9	528.0	489.7	451.8
44.5°	703.5	775.6	844.9	886.8	807.9	779.7	715.8	591.8	481.0	447.7	410.8



66.5°	3.2	3.2	3.6	3.6	3.2	3.2	3.2	3.2	2.7	2.7	2.7
67°	2.7	3.2	3.2	3.2	3.2	3.2	3.2	2.7	2.7	2.7	2.3



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°	1959.2	1985.6	1997.0	2019.4	2065.4	2113.8
22°	1941.0	1967.9	1979.7	2003.0	2049.5	2098.3



44°	416.3	461.9	490.6	540.3	642.0	755.0
44.5°	378.9	422.7	448.6	495.6	590.9	703.5

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66.5°	2.3	2.3	2.3	2.3	2.7	3.2
67°	2.3	2.3	2.3	2.3	2.7	2.7

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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)