

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: P776635

Luminaire Tested: HCDJBS4050CSD-HCD4TSQMB-5000lm-2700K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776635  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B006-HCD4TSQMB)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD4TSQMB-5000lm-2700K  
Description: 4 INCH SQUARE MEDIUM MATTE BLACK TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

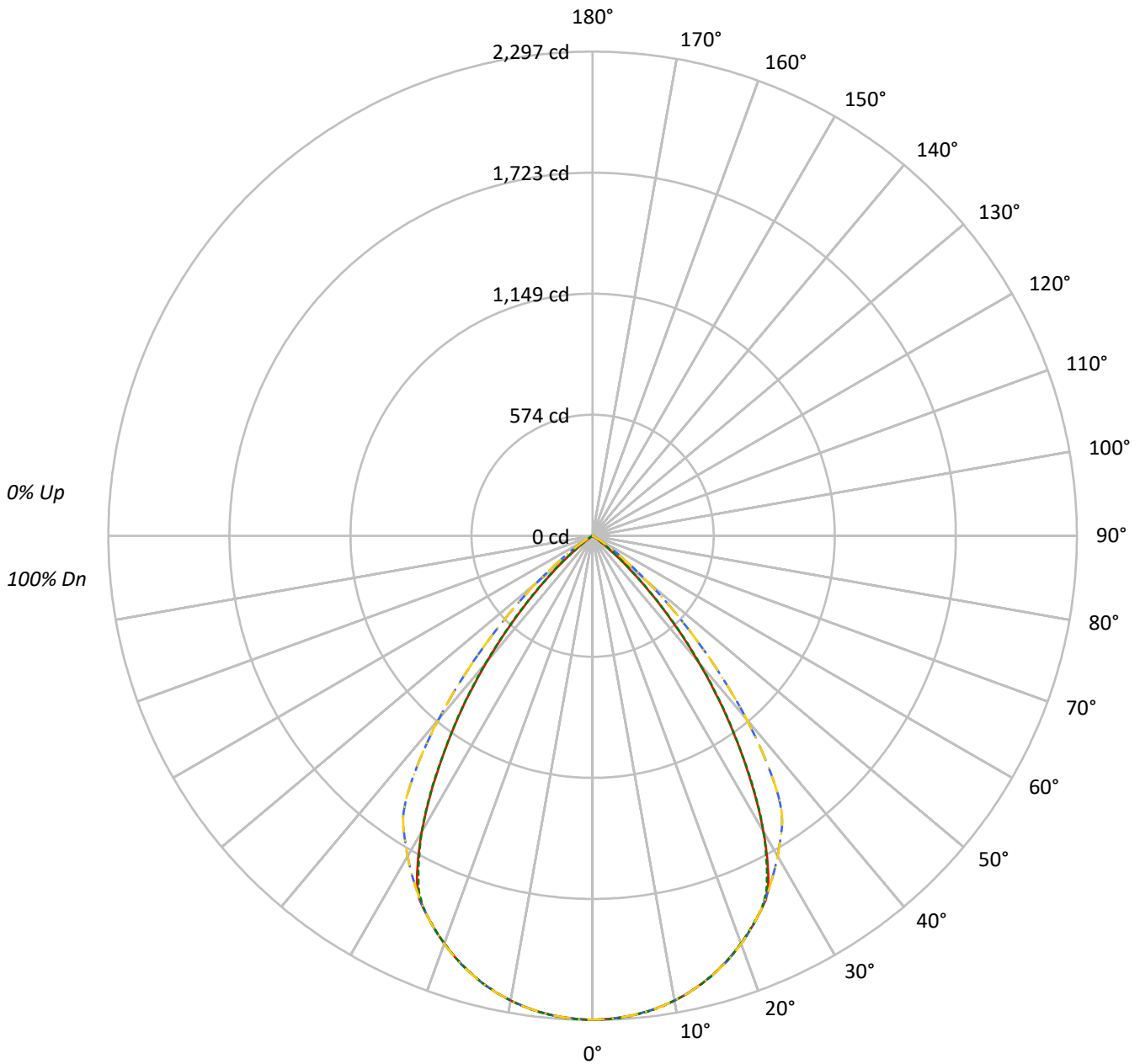
Lumens per Lamp: N/A  
Luminaire Lumens: 3037.1 lumens  
Efficiency: N/A  
Efficacy: 63.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1.1 / 1.14  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

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

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	226892	226892	226892	226892
5°	226350	226489	226350	226489
10°	224672	224762	224672	224762
15°	221471	221522	221471	221522
20°	216493	216398	216493	216398
25°	210017	209178	210017	209178
30°	184964	184919	184964	184919
35°	144447	144942	144447	144942
40°	100824	101817	100824	101817
45°	57228	58751	57228	58751
50°	22758	24434	22758	24434
55°	3378	4308	3378	4308
60°	712	712	712	712
65°	538	538	538	538
70°	405	405	405	405
75°	344	344	344	344
80°	285	285	285	285
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 96744 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	216.4	7.1
10°-20°	609.4	20.1
20°-30°	877.8	28.9
30°-40°	828.4	27.3
40°-50°	427.0	14.1
50°-60°	74.6	2.5
60°-70°	2.7	0.1
70°-80°	0.8	0.0
80°-90°	0.1	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°	1703.6	56.1
0°-40°	2532.0	83.4
0°-60°	3033.6	99.9
0°-90°	3037.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3037.1	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2296	2296	2296	2296	2296	
5°	2281	2283	2281	2283	2281	216
15°	2164	2165	2164	2165	2164	609
25°	1926	1918	1926	1918	1926	870
35°	1197	1201	1197	1201	1197	743
45°	409	420	409	420	409	324
55°	20	25	20	25	20	35
65°	2	2	2	2	2	2
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°	2295.5	2295.5	2295.5	2295.5	2295.5	2295.5	2295.5	2295.5	2295.5	2295.5	2295.5
0.5°	2295.0	2295.0	2295.0	2295.5	2296.8	2295.5	2295.0	2295.0	2295.0	2295.0	2295.0
1°	2294.5	2294.5	2294.5	2295.0	2296.4	2295.0	2294.5	2294.5	2294.5	2294.5	2294.5
1.5°	2293.6	2294.1	2294.1	2294.1	2295.5	2294.1	2294.1	2294.1	2293.6	2294.1	2294.1
2°	2292.7	2292.7	2293.2	2293.2	2294.5	2293.2	2293.2	2292.7	2292.7	2292.7	2293.2
2.5°	2291.4	2291.4	2291.8	2292.3	2293.2	2292.3	2291.8	2291.4	2291.4	2291.4	2291.8
3°	2290.0	2290.0	2290.4	2290.4	2291.8	2290.4	2290.4	2290.0	2290.0	2290.0	2290.4
3.5°	2288.2	2288.2	2288.6	2288.6	2290.0	2288.6	2288.6	2288.2	2288.2	2288.2	2288.6
4°	2286.4	2286.4	2286.4	2286.8	2287.7	2286.8	2286.4	2286.4	2286.4	2286.4	2286.4
4.5°	2284.1	2284.1	2284.1	2284.1	2285.4	2284.1	2284.1	2284.1	2284.1	2284.1	2284.1
5°	2281.3	2281.3	2281.3	2281.3	2282.7	2281.3	2281.3	2281.3	2281.3	2281.3	2281.3
5.5°	2278.2	2278.2	2278.6	2278.6	2279.5	2278.6	2278.6	2278.2	2278.2	2278.2	2278.6
6°	2275.0	2275.0	2275.0	2275.4	2276.3	2275.4	2275.0	2275.0	2275.0	2275.0	2275.0
6.5°	2271.3	2271.3	2271.8	2271.8	2272.7	2271.8	2271.8	2271.3	2271.3	2271.3	2271.8
7°	2267.7	2267.7	2267.7	2268.1	2269.0	2268.1	2267.7	2267.7	2267.7	2267.7	2267.7
7.5°	2263.6	2263.6	2263.6	2263.6	2264.9	2263.6	2263.6	2263.6	2263.6	2263.6	2263.6
8°	2259.0	2259.0	2259.5	2259.5	2260.4	2259.5	2259.5	2259.0	2259.0	2259.0	2259.5
8.5°	2254.5	2254.5	2254.5	2254.5	2255.4	2254.5	2254.5	2254.5	2254.5	2254.5	2254.5
9°	2249.5	2249.5	2249.5	2249.5	2250.4	2249.5	2249.5	2249.5	2249.5	2249.5	2249.5
9.5°	2244.0	2244.0	2244.0	2244.0	2244.9	2244.0	2244.0	2244.0	2244.0	2244.0	2244.0
10°	2238.5	2238.5	2238.5	2238.5	2239.4	2238.5	2238.5	2238.5	2238.5	2238.5	2238.5
10.5°	2232.6	2232.6	2232.6	2232.2	2233.5	2232.2	2232.6	2232.6	2232.6	2232.6	2232.6
11°	2226.2	2226.2	2226.7	2226.2	2227.2	2226.2	2226.7	2226.2	2226.2	2226.2	2226.7
11.5°	2219.9	2219.9	2219.9	2219.4	2220.3	2219.4	2219.9	2219.9	2219.9	2219.9	2219.9
12°	2213.0	2213.0	2213.0	2212.6	2213.5	2212.6	2213.0	2213.0	2213.0	2213.0	2213.0
12.5°	2205.3	2205.8	2205.8	2205.3	2205.8	2205.3	2205.8	2205.8	2205.3	2205.8	2205.8
13°	2198.0	2198.5	2198.5	2197.6	2198.5	2197.6	2198.5	2198.5	2198.0	2198.5	2198.5
13.5°	2190.3	2190.3	2190.7	2189.8	2190.7	2189.8	2190.7	2190.3	2190.3	2190.3	2190.7
14°	2182.1	2182.5	2182.5	2181.6	2182.1	2181.6	2182.5	2182.5	2182.1	2182.5	2182.5
14.5°	2173.4	2173.9	2174.3	2173.4	2173.4	2173.4	2174.3	2173.9	2173.4	2173.9	2174.3
15°	2164.3	2165.2	2165.2	2164.3	2164.8	2164.3	2165.2	2165.2	2164.3	2165.2	2165.2
15.5°	2155.2	2156.1	2156.1	2155.2	2155.2	2155.2	2156.1	2156.1	2155.2	2156.1	2156.1
16°	2145.6	2146.6	2147.0	2145.6	2145.6	2145.6	2147.0	2146.6	2145.6	2146.6	2147.0
16.5°	2136.1	2136.5	2137.4	2136.1	2135.6	2136.1	2137.4	2136.5	2136.1	2136.5	2137.4
17°	2126.1	2126.5	2127.4	2125.6	2125.6	2125.6	2127.4	2126.5	2126.1	2126.5	2127.4
17.5°	2115.1	2116.0	2117.0	2115.1	2115.1	2115.1	2117.0	2116.0	2115.1	2116.0	2117.0
18°	2104.7	2105.1	2106.0	2104.7	2104.2	2104.7	2106.0	2105.1	2104.7	2105.1	2106.0
18.5°	2093.7	2094.2	2095.1	2093.3	2092.8	2093.3	2095.1	2094.2	2093.7	2094.2	2095.1
19°	2081.9	2082.8	2083.7	2081.9	2081.0	2081.9	2083.7	2082.8	2081.9	2082.8	2083.7
19.5°	2070.5	2071.0	2071.9	2070.1	2069.6	2070.1	2071.9	2071.0	2070.5	2071.0	2071.9
20°	2058.2	2059.1	2060.0	2057.8	2057.3	2057.8	2060.0	2059.1	2058.2	2059.1	2060.0
20.5°	2046.4	2046.8	2047.7	2045.5	2045.0	2045.5	2047.7	2046.8	2046.4	2046.8	2047.7
21°	2033.6	2034.1	2035.0	2032.7	2032.3	2032.7	2035.0	2034.1	2033.6	2034.1	2035.0



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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°	1994.5	1994.5	1994.9	1993.1	1993.1	1993.1	1994.9	1994.5	1994.5	1994.5	1994.9
23°	1980.8	1980.8	1980.8	1979.4	1979.0	1979.4	1980.8	1980.8	1980.8	1980.8	1980.8
23.5°	1967.1	1967.1	1966.2	1965.3	1965.3	1965.3	1966.2	1967.1	1967.1	1967.1	1966.2
24°	1953.0	1953.0	1951.7	1951.2	1952.1	1951.2	1951.7	1953.0	1953.0	1953.0	1951.7
24.5°	1938.9	1938.5	1936.6	1936.6	1938.0	1936.6	1936.6	1938.5	1938.9	1938.5	1936.6
25°	1925.7	1923.4	1921.2	1921.6	1918.0	1921.6	1921.2	1923.4	1925.7	1923.4	1921.2
25.5°	1910.2	1908.9	1905.7	1907.0	1898.8	1907.0	1905.7	1908.9	1910.2	1908.9	1905.7
26°	1884.3	1893.8	1889.7	1892.5	1879.7	1892.5	1889.7	1893.8	1884.3	1893.8	1889.7
26.5°	1862.4	1878.8	1873.8	1877.0	1851.9	1877.0	1873.8	1878.8	1862.4	1878.8	1873.8
27°	1836.0	1864.7	1857.4	1855.6	1819.6	1855.6	1857.4	1864.7	1836.0	1864.7	1857.4
27.5°	1803.2	1845.1	1840.6	1836.0	1790.5	1836.0	1840.6	1845.1	1803.2	1845.1	1840.6
28°	1768.6	1819.2	1823.7	1815.1	1758.1	1815.1	1823.7	1819.2	1768.6	1819.2	1823.7
28.5°	1733.5	1796.8	1806.9	1785.5	1724.4	1785.5	1806.9	1796.8	1733.5	1796.8	1806.9
29°	1696.7	1769.1	1789.6	1754.5	1691.7	1754.5	1789.6	1769.1	1696.7	1769.1	1789.6
29.5°	1659.3	1736.3	1772.3	1724.4	1656.1	1724.4	1772.3	1736.3	1659.3	1736.3	1772.3
30°	1620.6	1702.6	1754.5	1692.6	1620.2	1692.6	1754.5	1702.6	1620.6	1702.6	1754.5
30.5°	1581.0	1667.1	1737.2	1659.3	1582.8	1659.3	1737.2	1667.1	1581.0	1667.1	1737.2
31°	1540.0	1631.5	1719.4	1625.2	1544.6	1625.2	1719.4	1631.5	1540.0	1631.5	1719.4
31.5°	1498.6	1594.7	1701.7	1591.0	1503.1	1591.0	1701.7	1594.7	1498.6	1594.7	1701.7
32°	1456.2	1557.3	1683.9	1556.0	1460.8	1556.0	1683.9	1557.3	1456.2	1557.3	1683.9
32.5°	1413.0	1518.6	1666.6	1520.0	1418.0	1520.0	1666.6	1518.6	1413.0	1518.6	1666.6
33°	1369.7	1479.9	1648.9	1482.2	1375.6	1482.2	1648.9	1479.9	1369.7	1479.9	1648.9
33.5°	1326.0	1439.4	1628.4	1443.5	1329.6	1443.5	1628.4	1439.4	1326.0	1439.4	1628.4
34°	1283.2	1398.4	1606.5	1403.0	1285.9	1403.0	1606.5	1398.4	1283.2	1398.4	1606.5
34.5°	1239.9	1357.0	1581.0	1361.1	1242.7	1361.1	1581.0	1357.0	1239.9	1357.0	1581.0
35°	1197.1	1315.5	1550.0	1318.7	1201.2	1318.7	1550.0	1315.5	1197.1	1315.5	1550.0
35.5°	1155.2	1274.5	1516.8	1277.3	1158.4	1277.3	1516.8	1274.5	1155.2	1274.5	1516.8
36°	1113.8	1232.7	1479.9	1234.9	1118.4	1234.9	1479.9	1232.7	1113.8	1232.7	1479.9
36.5°	1071.9	1191.7	1440.3	1193.5	1077.4	1193.5	1440.3	1191.7	1071.9	1191.7	1440.3
37°	1030.5	1150.7	1398.4	1152.5	1036.8	1152.5	1398.4	1150.7	1030.5	1150.7	1398.4
37.5°	988.6	1110.2	1356.1	1112.9	995.9	1112.9	1356.1	1110.2	988.6	1110.2	1356.1
38°	946.7	1069.6	1312.3	1072.8	954.9	1072.8	1312.3	1069.6	946.7	1069.6	1312.3
38.5°	904.3	1030.5	1269.1	1034.1	913.0	1034.1	1269.1	1030.5	904.3	1030.5	1269.1
39°	863.4	990.9	1225.4	995.4	872.0	995.4	1225.4	990.9	863.4	990.9	1225.4
39.5°	822.8	951.2	1181.2	957.2	829.7	957.2	1181.2	951.2	822.8	951.2	1181.2
40°	781.4	911.2	1136.1	918.0	789.1	918.0	1136.1	911.2	781.4	911.2	1136.1
40.5°	740.9	871.6	1090.6	878.4	748.2	878.4	1090.6	871.6	740.9	871.6	1090.6
41°	701.7	832.4	1045.0	839.2	708.5	839.2	1045.0	832.4	701.7	832.4	1045.0
41.5°	662.5	793.2	999.1	800.1	669.8	800.1	999.1	793.2	662.5	793.2	999.1
42°	624.8	755.0	953.1	760.9	632.5	760.9	953.1	755.0	624.8	755.0	953.1
42.5°	587.4	716.7	908.0	723.1	595.6	723.1	908.0	716.7	587.4	716.7	908.0
43°	550.5	679.4	862.9	684.9	559.2	684.9	862.9	679.4	550.5	679.4	862.9
43.5°	513.6	642.5	818.7	648.9	523.7	648.9	818.7	642.5	513.6	642.5	818.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	409.4	536.0	692.1	542.8	420.3	542.8	692.1	536.0	409.4	536.0	692.1
45.5°	377.5	501.8	652.5	509.5	388.0	509.5	652.5	501.8	377.5	501.8	652.5
46°	347.0	468.6	614.7	476.8	357.0	476.8	614.7	468.6	347.0	468.6	614.7
46.5°	316.0	434.9	577.4	444.0	327.4	444.0	577.4	434.9	316.0	434.9	577.4
47°	286.9	403.0	541.0	411.6	299.6	411.6	541.0	403.0	286.9	403.0	541.0
47.5°	257.7	372.0	505.9	379.8	272.3	379.8	505.9	372.0	257.7	372.0	505.9
48°	232.2	342.4	472.2	350.2	245.9	350.2	472.2	342.4	232.2	342.4	472.2
48.5°	207.6	313.3	439.9	321.9	222.2	321.9	439.9	313.3	207.6	313.3	439.9
49°	187.2	284.6	407.5	294.2	200.4	294.2	407.5	284.6	187.2	284.6	407.5
49.5°	167.6	257.7	376.6	267.8	179.4	267.8	376.6	257.7	167.6	257.7	376.6
50°	148.0	232.2	346.1	242.3	158.9	242.3	346.1	232.2	148.0	232.2	346.1
50.5°	129.3	208.1	317.8	218.6	138.9	218.6	317.8	208.1	129.3	208.1	317.8
51°	111.6	187.2	290.5	197.2	122.0	197.2	290.5	187.2	111.6	187.2	290.5
51.5°	97.0	167.1	264.6	176.2	106.1	176.2	264.6	167.1	97.0	167.1	264.6
52°	82.9	147.5	239.5	156.2	91.1	156.2	239.5	147.5	82.9	147.5	239.5
52.5°	69.7	128.4	215.8	137.1	77.0	137.1	215.8	128.4	69.7	128.4	215.8
53°	57.4	111.1	194.9	120.2	63.8	120.2	194.9	111.1	57.4	111.1	194.9
53.5°	47.4	95.6	174.4	104.7	51.0	104.7	174.4	95.6	47.4	95.6	174.4
54°	36.9	81.5	155.3	89.7	40.5	89.7	155.3	81.5	36.9	81.5	155.3
54.5°	26.9	68.3	137.5	75.6	32.8	75.6	137.5	68.3	26.9	68.3	137.5
55°	19.6	56.9	120.2	62.4	25.0	62.4	120.2	56.9	19.6	56.9	120.2
55.5°	12.3	46.4	104.7	50.1	17.3	50.1	104.7	46.4	12.3	46.4	104.7
56°	8.2	36.4	89.7	39.2	9.6	39.2	89.7	36.4	8.2	36.4	89.7
56.5°	6.4	26.4	77.0	30.1	5.9	30.1	77.0	26.4	6.4	26.4	77.0
57°	4.6	17.3	65.6	21.9	5.0	21.9	65.6	17.3	4.6	17.3	65.6
57.5°	4.6	10.9	55.1	14.6	4.6	14.6	55.1	10.9	4.6	10.9	55.1
58°	4.1	6.8	46.0	9.6	4.6	9.6	46.0	6.8	4.1	6.8	46.0
58.5°	4.1	4.6	38.3	6.8	4.1	6.8	38.3	4.6	4.1	4.6	38.3
59°	3.6	3.6	31.0	5.0	4.1	5.0	31.0	3.6	3.6	3.6	31.0
59.5°	3.6	3.6	25.0	3.6	4.1	3.6	25.0	3.6	3.6	3.6	25.0
60°	3.6	3.6	20.0	3.6	3.6	3.6	20.0	3.6	3.6	3.6	20.0
60.5°	3.2	3.2	15.5	3.6	3.6	3.6	15.5	3.2	3.2	3.2	15.5
61°	3.2	3.2	12.3	3.2	3.6	3.2	12.3	3.2	3.2	3.2	12.3
61.5°	3.2	3.2	9.1	3.2	3.2	3.2	9.1	3.2	3.2	3.2	9.1
62°	2.7	2.7	6.8	3.2	3.2	3.2	6.8	2.7	2.7	2.7	6.8
62.5°	2.7	2.7	5.0	2.7	3.2	2.7	5.0	2.7	2.7	2.7	5.0
63°	2.7	2.7	3.6	2.7	2.7	2.7	3.6	2.7	2.7	2.7	3.6
63.5°	2.7	2.3	2.7	2.7	2.7	2.7	2.7	2.3	2.7	2.3	2.7
64°	2.3	2.3	2.3	2.3	2.7	2.3	2.3	2.3	2.3	2.3	2.3
64.5°	2.3	2.3	1.8	2.3	2.7	2.3	1.8	2.3	2.3	2.3	1.8
65°	2.3	2.3	1.8	2.3	2.3	2.3	1.8	2.3	2.3	2.3	1.8
65.5°	2.3	1.8	1.8	2.3	2.3	2.3	1.8	1.8	2.3	1.8	1.8
66°	2.3	1.8	1.4	1.8	2.3	1.8	1.4	1.8	2.3	1.8	1.4





TEST NUMBER: P776635

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.8	1.8	1.4	1.8	1.8	1.8	1.4	1.8	1.8	1.8	1.4
68°	1.8	1.4	1.4	1.8	1.8	1.8	1.4	1.4	1.8	1.4	1.4
68.5°	1.8	1.4	0.9	1.4	1.8	1.4	0.9	1.4	1.8	1.4	0.9
69°	1.4	1.4	0.9	1.4	1.8	1.4	0.9	1.4	1.4	1.4	0.9
69.5°	1.4	1.4	0.9	1.4	1.8	1.4	0.9	1.4	1.4	1.4	0.9
70°	1.4	1.4	0.9	1.4	1.4	1.4	0.9	1.4	1.4	1.4	0.9
70.5°	1.4	1.4	0.9	1.4	1.4	1.4	0.9	1.4	1.4	1.4	0.9
71°	1.4	0.9	0.9	1.4	1.4	1.4	0.9	0.9	1.4	0.9	0.9
71.5°	1.4	0.9	0.9	0.9	1.4	0.9	0.9	0.9	1.4	0.9	0.9
72°	1.4	0.9	0.9	0.9	1.4	0.9	0.9	0.9	1.4	0.9	0.9
72.5°	0.9	0.9	0.5	0.9	1.4	0.9	0.5	0.9	0.9	0.9	0.5
73°	0.9	0.9	0.5	0.9	1.4	0.9	0.5	0.9	0.9	0.9	0.5
73.5°	0.9	0.9	0.5	0.9	0.9	0.9	0.5	0.9	0.9	0.9	0.5
74°	0.9	0.9	0.5	0.9	0.9	0.9	0.5	0.9	0.9	0.9	0.5
74.5°	0.9	0.9	0.5	0.9	0.9	0.9	0.5	0.9	0.9	0.9	0.5
75°	0.9	0.9	0.5	0.9	0.9	0.9	0.5	0.9	0.9	0.9	0.5
75.5°	0.9	0.5	0.5	0.9	0.9	0.9	0.5	0.5	0.9	0.5	0.5
76°	0.9	0.5	0.5	0.5	0.9	0.5	0.5	0.5	0.9	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.9	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	0.9	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.0
79.5°	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.0
80°	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.0
80.5°	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.0
81°	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.0
81.5°	0.5	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.5	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.5	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: P776635  
CATALOG NUMBER: HCDJBL4050CSD-HCD4TSQMB-5000lm-2700K

**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: P776635

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2295.5	2295.5	2295.5	2295.5	2295.5	2295.5
0.5°	2295.5	2296.8	2295.5	2295.0	2295.0	2295.0
1°	2295.0	2296.4	2295.0	2294.5	2294.5	2294.5
1.5°	2294.1	2295.5	2294.1	2294.1	2294.1	2293.6
2°	2293.2	2294.5	2293.2	2293.2	2292.7	2292.7
2.5°	2292.3	2293.2	2292.3	2291.8	2291.4	2291.4
3°	2290.4	2291.8	2290.4	2290.4	2290.0	2290.0
3.5°	2288.6	2290.0	2288.6	2288.6	2288.2	2288.2
4°	2286.8	2287.7	2286.8	2286.4	2286.4	2286.4
4.5°	2284.1	2285.4	2284.1	2284.1	2284.1	2284.1
5°	2281.3	2282.7	2281.3	2281.3	2281.3	2281.3
5.5°	2278.6	2279.5	2278.6	2278.6	2278.2	2278.2
6°	2275.4	2276.3	2275.4	2275.0	2275.0	2275.0
6.5°	2271.8	2272.7	2271.8	2271.8	2271.3	2271.3
7°	2268.1	2269.0	2268.1	2267.7	2267.7	2267.7
7.5°	2263.6	2264.9	2263.6	2263.6	2263.6	2263.6
8°	2259.5	2260.4	2259.5	2259.5	2259.0	2259.0
8.5°	2254.5	2255.4	2254.5	2254.5	2254.5	2254.5
9°	2249.5	2250.4	2249.5	2249.5	2249.5	2249.5
9.5°	2244.0	2244.9	2244.0	2244.0	2244.0	2244.0
10°	2238.5	2239.4	2238.5	2238.5	2238.5	2238.5
10.5°	2232.2	2233.5	2232.2	2232.6	2232.6	2232.6
11°	2226.2	2227.2	2226.2	2226.7	2226.2	2226.2
11.5°	2219.4	2220.3	2219.4	2219.9	2219.9	2219.9
12°	2212.6	2213.5	2212.6	2213.0	2213.0	2213.0
12.5°	2205.3	2205.8	2205.3	2205.8	2205.8	2205.3
13°	2197.6	2198.5	2197.6	2198.5	2198.5	2198.0
13.5°	2189.8	2190.7	2189.8	2190.7	2190.3	2190.3
14°	2181.6	2182.1	2181.6	2182.5	2182.5	2182.1
14.5°	2173.4	2173.4	2173.4	2174.3	2173.9	2173.4
15°	2164.3	2164.8	2164.3	2165.2	2165.2	2164.3
15.5°	2155.2	2155.2	2155.2	2156.1	2156.1	2155.2
16°	2145.6	2145.6	2145.6	2147.0	2146.6	2145.6
16.5°	2136.1	2135.6	2136.1	2137.4	2136.5	2136.1
17°	2125.6	2125.6	2125.6	2127.4	2126.5	2126.1
17.5°	2115.1	2115.1	2115.1	2117.0	2116.0	2115.1
18°	2104.7	2104.2	2104.7	2106.0	2105.1	2104.7
18.5°	2093.3	2092.8	2093.3	2095.1	2094.2	2093.7
19°	2081.9	2081.0	2081.9	2083.7	2082.8	2081.9
19.5°	2070.1	2069.6	2070.1	2071.9	2071.0	2070.5
20°	2057.8	2057.3	2057.8	2060.0	2059.1	2058.2
20.5°	2045.5	2045.0	2045.5	2047.7	2046.8	2046.4
21°	2032.7	2032.3	2032.7	2035.0	2034.1	2033.6

TEST NUMBER: P776635

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1993.1	1993.1	1993.1	1994.9	1994.5	1994.5
23°	1979.4	1979.0	1979.4	1980.8	1980.8	1980.8
23.5°	1965.3	1965.3	1965.3	1966.2	1967.1	1967.1
24°	1951.2	1952.1	1951.2	1951.7	1953.0	1953.0
24.5°	1936.6	1938.0	1936.6	1936.6	1938.5	1938.9
25°	1921.6	1918.0	1921.6	1921.2	1923.4	1925.7
25.5°	1907.0	1898.8	1907.0	1905.7	1908.9	1910.2
26°	1892.5	1879.7	1892.5	1889.7	1893.8	1884.3
26.5°	1877.0	1851.9	1877.0	1873.8	1878.8	1862.4
27°	1855.6	1819.6	1855.6	1857.4	1864.7	1836.0
27.5°	1836.0	1790.5	1836.0	1840.6	1845.1	1803.2
28°	1815.1	1758.1	1815.1	1823.7	1819.2	1768.6
28.5°	1785.5	1724.4	1785.5	1806.9	1796.8	1733.5
29°	1754.5	1691.7	1754.5	1789.6	1769.1	1696.7
29.5°	1724.4	1656.1	1724.4	1772.3	1736.3	1659.3
30°	1692.6	1620.2	1692.6	1754.5	1702.6	1620.6
30.5°	1659.3	1582.8	1659.3	1737.2	1667.1	1581.0
31°	1625.2	1544.6	1625.2	1719.4	1631.5	1540.0
31.5°	1591.0	1503.1	1591.0	1701.7	1594.7	1498.6
32°	1556.0	1460.8	1556.0	1683.9	1557.3	1456.2
32.5°	1520.0	1418.0	1520.0	1666.6	1518.6	1413.0
33°	1482.2	1375.6	1482.2	1648.9	1479.9	1369.7
33.5°	1443.5	1329.6	1443.5	1628.4	1439.4	1326.0
34°	1403.0	1285.9	1403.0	1606.5	1398.4	1283.2
34.5°	1361.1	1242.7	1361.1	1581.0	1357.0	1239.9
35°	1318.7	1201.2	1318.7	1550.0	1315.5	1197.1
35.5°	1277.3	1158.4	1277.3	1516.8	1274.5	1155.2
36°	1234.9	1118.4	1234.9	1479.9	1232.7	1113.8
36.5°	1193.5	1077.4	1193.5	1440.3	1191.7	1071.9
37°	1152.5	1036.8	1152.5	1398.4	1150.7	1030.5
37.5°	1112.9	995.9	1112.9	1356.1	1110.2	988.6
38°	1072.8	954.9	1072.8	1312.3	1069.6	946.7
38.5°	1034.1	913.0	1034.1	1269.1	1030.5	904.3
39°	995.4	872.0	995.4	1225.4	990.9	863.4
39.5°	957.2	829.7	957.2	1181.2	951.2	822.8
40°	918.0	789.1	918.0	1136.1	911.2	781.4
40.5°	878.4	748.2	878.4	1090.6	871.6	740.9
41°	839.2	708.5	839.2	1045.0	832.4	701.7
41.5°	800.1	669.8	800.1	999.1	793.2	662.5
42°	760.9	632.5	760.9	953.1	755.0	624.8
42.5°	723.1	595.6	723.1	908.0	716.7	587.4
43°	684.9	559.2	684.9	862.9	679.4	550.5
43.5°	648.9	523.7	648.9	818.7	642.5	513.6



TEST NUMBER: P776635

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	542.8	420.3	542.8	692.1	536.0	409.4
45.5°	509.5	388.0	509.5	652.5	501.8	377.5
46°	476.8	357.0	476.8	614.7	468.6	347.0
46.5°	444.0	327.4	444.0	577.4	434.9	316.0
47°	411.6	299.6	411.6	541.0	403.0	286.9
47.5°	379.8	272.3	379.8	505.9	372.0	257.7
48°	350.2	245.9	350.2	472.2	342.4	232.2
48.5°	321.9	222.2	321.9	439.9	313.3	207.6
49°	294.2	200.4	294.2	407.5	284.6	187.2
49.5°	267.8	179.4	267.8	376.6	257.7	167.6
50°	242.3	158.9	242.3	346.1	232.2	148.0
50.5°	218.6	138.9	218.6	317.8	208.1	129.3
51°	197.2	122.0	197.2	290.5	187.2	111.6
51.5°	176.2	106.1	176.2	264.6	167.1	97.0
52°	156.2	91.1	156.2	239.5	147.5	82.9
52.5°	137.1	77.0	137.1	215.8	128.4	69.7
53°	120.2	63.8	120.2	194.9	111.1	57.4
53.5°	104.7	51.0	104.7	174.4	95.6	47.4
54°	89.7	40.5	89.7	155.3	81.5	36.9
54.5°	75.6	32.8	75.6	137.5	68.3	26.9
55°	62.4	25.0	62.4	120.2	56.9	19.6
55.5°	50.1	17.3	50.1	104.7	46.4	12.3
56°	39.2	9.6	39.2	89.7	36.4	8.2
56.5°	30.1	5.9	30.1	77.0	26.4	6.4
57°	21.9	5.0	21.9	65.6	17.3	4.6
57.5°	14.6	4.6	14.6	55.1	10.9	4.6
58°	9.6	4.6	9.6	46.0	6.8	4.1
58.5°	6.8	4.1	6.8	38.3	4.6	4.1
59°	5.0	4.1	5.0	31.0	3.6	3.6
59.5°	3.6	4.1	3.6	25.0	3.6	3.6
60°	3.6	3.6	3.6	20.0	3.6	3.6
60.5°	3.6	3.6	3.6	15.5	3.2	3.2
61°	3.2	3.6	3.2	12.3	3.2	3.2
61.5°	3.2	3.2	3.2	9.1	3.2	3.2
62°	3.2	3.2	3.2	6.8	2.7	2.7
62.5°	2.7	3.2	2.7	5.0	2.7	2.7
63°	2.7	2.7	2.7	3.6	2.7	2.7
63.5°	2.7	2.7	2.7	2.7	2.3	2.7
64°	2.3	2.7	2.3	2.3	2.3	2.3
64.5°	2.3	2.7	2.3	1.8	2.3	2.3
65°	2.3	2.3	2.3	1.8	2.3	2.3
65.5°	2.3	2.3	2.3	1.8	1.8	2.3
66°	1.8	2.3	1.8	1.4	1.8	2.3



TEST NUMBER: P776635

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.8	1.8	1.8	1.4	1.8	1.8
68°	1.8	1.8	1.8	1.4	1.4	1.8
68.5°	1.4	1.8	1.4	0.9	1.4	1.8
69°	1.4	1.8	1.4	0.9	1.4	1.4
69.5°	1.4	1.8	1.4	0.9	1.4	1.4
70°	1.4	1.4	1.4	0.9	1.4	1.4
70.5°	1.4	1.4	1.4	0.9	1.4	1.4
71°	1.4	1.4	1.4	0.9	0.9	1.4
71.5°	0.9	1.4	0.9	0.9	0.9	1.4
72°	0.9	1.4	0.9	0.9	0.9	1.4
72.5°	0.9	1.4	0.9	0.5	0.9	0.9
73°	0.9	1.4	0.9	0.5	0.9	0.9
73.5°	0.9	0.9	0.9	0.5	0.9	0.9
74°	0.9	0.9	0.9	0.5	0.9	0.9
74.5°	0.9	0.9	0.9	0.5	0.9	0.9
75°	0.9	0.9	0.9	0.5	0.9	0.9
75.5°	0.9	0.9	0.9	0.5	0.5	0.9
76°	0.5	0.9	0.5	0.5	0.5	0.9
76.5°	0.5	0.9	0.5	0.5	0.5	0.5
77°	0.5	0.9	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.0	0.5	0.5
79.5°	0.5	0.5	0.5	0.0	0.5	0.5
80°	0.5	0.5	0.5	0.0	0.5	0.5
80.5°	0.5	0.5	0.5	0.0	0.5	0.5
81°	0.5	0.5	0.5	0.0	0.5	0.5
81.5°	0.5	0.5	0.5	0.0	0.0	0.5
82°	0.0	0.5	0.0	0.0	0.0	0.0
82.5°	0.0	0.5	0.0	0.0	0.0	0.0
83°	0.0	0.5	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: P776635  
CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-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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1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



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

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Scaled Data Report





21.5°	2020.9	2021.3	2021.8	2020.0	2019.5	2020.0	2021.8	2021.3	2020.9	2021.3	2021.8
22°	2007.7	2008.1	2008.6	2006.3	2006.3	2006.3	2008.6	2008.1	2007.7	2008.1	2008.6



44°	478.1	606.1	775.0	612.5	488.1	612.5	775.0	606.1	478.1	606.1	775.0
44.5°	443.5	571.0	733.1	577.4	453.5	577.4	733.1	571.0	443.5	571.0	733.1



66.5°	1.8	1.8	1.4	1.8	2.3	1.8	1.4	1.8	1.8	1.8	1.4
67°	1.8	1.8	1.4	1.8	1.8	1.8	1.4	1.8	1.8	1.8	1.4



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°	2020.0	2019.5	2020.0	2021.8	2021.3	2020.9
22°	2006.3	2006.3	2006.3	2008.6	2008.1	2007.7



44°	612.5	488.1	612.5	775.0	606.1	478.1
44.5°	577.4	453.5	577.4	733.1	571.0	443.5

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66.5°	1.8	2.3	1.8	1.4	1.8	1.8
67°	1.8	1.8	1.8	1.4	1.8	1.8

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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)