

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: P776639

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

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776639
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-5000K
Description: 4 INCH SQUARE MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3235.4 lumens
Efficiency: N/A
Efficacy: 67.4 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

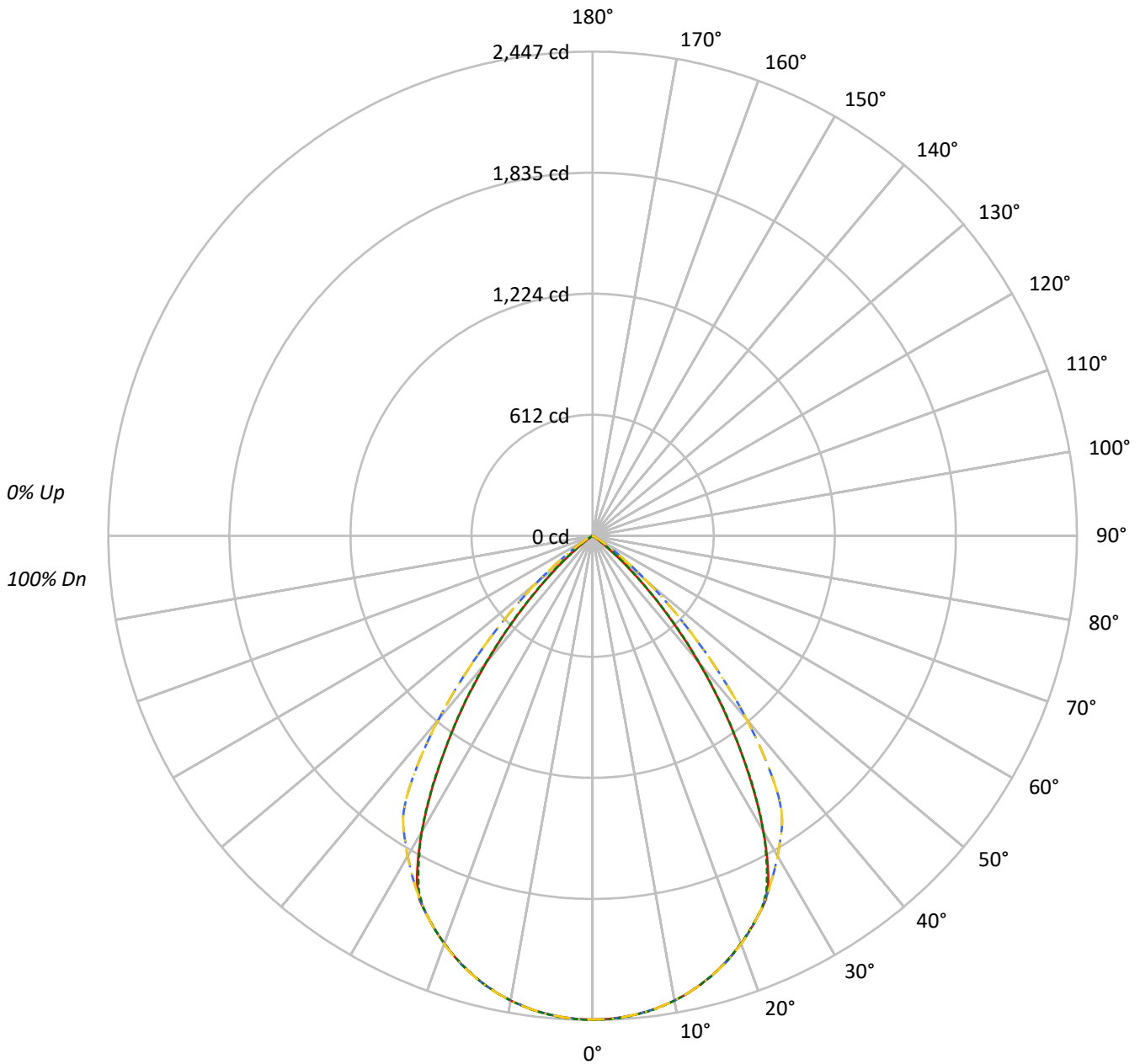
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	241699	241699	241699	241699
5°	241134	241273	241134	241273
10°	239345	239446	239345	239446
15°	235930	235981	235930	235981
20°	230630	230525	230630	230525
25°	223726	222832	223726	222832
30°	197039	196982	197039	196982
35°	153883	154414	153883	154414
40°	107404	108475	107404	108475
45°	60960	62581	60960	62581
50°	24250	26033	24250	26033
55°	3602	4601	3602	4601
60°	771	771	771	771
65°	561	561	561	561
70°	433	433	433	433
75°	382	382	382	382
80°	285	285	285	285
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 103063 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.6	7.1
10°-20°	649.1	20.1
20°-30°	935.1	28.9
30°-40°	882.5	27.3
40°-50°	454.9	14.1
50°-60°	79.4	2.5
60°-70°	2.9	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°	1814.8	56.1
0°-40°	2697.3	83.4
0°-60°	3231.6	99.9
0°-90°	3235.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3235.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2445	2445	2445	2445	2445	
5°	2430	2432	2430	2432	2430	231
15°	2306	2306	2306	2306	2306	649
25°	2051	2043	2051	2043	2051	927
35°	1275	1280	1275	1280	1275	791
45°	436	448	436	448	436	345
55°	21	27	21	27	21	37
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	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°	2445.3	2445.3	2445.3	2445.3	2445.3	2445.3	2445.3	2445.3	2445.3	2445.3	2445.3
0.5°	2444.8	2444.8	2444.8	2445.3	2446.8	2445.3	2444.8	2444.8	2444.8	2444.8	2444.8
1°	2444.3	2444.3	2444.3	2444.8	2446.3	2444.8	2444.3	2444.3	2444.3	2444.3	2444.3
1.5°	2443.4	2443.9	2443.9	2443.9	2445.3	2443.9	2443.9	2443.9	2443.4	2443.9	2443.9
2°	2442.4	2442.4	2442.9	2442.9	2444.3	2442.9	2442.9	2442.4	2442.4	2442.4	2442.9
2.5°	2441.0	2441.0	2441.4	2441.9	2442.9	2441.9	2441.4	2441.0	2441.0	2441.0	2441.4
3°	2439.5	2439.5	2440.0	2440.0	2441.4	2440.0	2440.0	2439.5	2439.5	2439.5	2440.0
3.5°	2437.6	2437.6	2438.0	2438.0	2439.5	2438.0	2438.0	2437.6	2437.6	2437.6	2438.0
4°	2435.6	2435.6	2435.6	2436.1	2437.1	2436.1	2435.6	2435.6	2435.6	2435.6	2435.6
4.5°	2433.2	2433.2	2433.2	2433.2	2434.6	2433.2	2433.2	2433.2	2433.2	2433.2	2433.2
5°	2430.3	2430.3	2430.3	2430.3	2431.7	2430.3	2430.3	2430.3	2430.3	2430.3	2430.3
5.5°	2426.9	2426.9	2427.4	2427.4	2428.3	2427.4	2427.4	2426.9	2426.9	2426.9	2427.4
6°	2423.5	2423.5	2423.5	2424.0	2424.9	2424.0	2423.5	2423.5	2423.5	2423.5	2423.5
6.5°	2419.6	2419.6	2420.1	2420.1	2421.1	2420.1	2420.1	2419.6	2419.6	2419.6	2420.1
7°	2415.7	2415.7	2415.7	2416.2	2417.2	2416.2	2415.7	2415.7	2415.7	2415.7	2415.7
7.5°	2411.4	2411.4	2411.4	2411.4	2412.8	2411.4	2411.4	2411.4	2411.4	2411.4	2411.4
8°	2406.5	2406.5	2407.0	2407.0	2408.0	2407.0	2407.0	2406.5	2406.5	2406.5	2407.0
8.5°	2401.7	2401.7	2401.7	2401.7	2402.6	2401.7	2401.7	2401.7	2401.7	2401.7	2401.7
9°	2396.3	2396.3	2396.3	2396.3	2397.3	2396.3	2396.3	2396.3	2396.3	2396.3	2396.3
9.5°	2390.5	2390.5	2390.5	2390.5	2391.5	2390.5	2390.5	2390.5	2390.5	2390.5	2390.5
10°	2384.7	2384.7	2384.7	2384.7	2385.7	2384.7	2384.7	2384.7	2384.7	2384.7	2384.7
10.5°	2378.4	2378.4	2378.4	2377.9	2379.3	2377.9	2378.4	2378.4	2378.4	2378.4	2378.4
11°	2371.6	2371.6	2372.1	2371.6	2372.6	2371.6	2372.1	2371.6	2371.6	2371.6	2372.1
11.5°	2364.8	2364.8	2364.8	2364.3	2365.3	2364.3	2364.8	2364.8	2364.8	2364.8	2364.8
12°	2357.5	2357.5	2357.5	2357.0	2358.0	2357.0	2357.5	2357.5	2357.5	2357.5	2357.5
12.5°	2349.3	2349.8	2349.8	2349.3	2349.8	2349.3	2349.8	2349.8	2349.3	2349.8	2349.8
13°	2341.5	2342.0	2342.0	2341.0	2342.0	2341.0	2342.0	2342.0	2341.5	2342.0	2342.0
13.5°	2333.3	2333.3	2333.7	2332.8	2333.7	2332.8	2333.7	2333.3	2333.3	2333.3	2333.7
14°	2324.5	2325.0	2325.0	2324.0	2324.5	2324.0	2325.0	2325.0	2324.5	2325.0	2325.0
14.5°	2315.3	2315.8	2316.3	2315.3	2315.3	2315.3	2316.3	2315.8	2315.3	2315.8	2316.3
15°	2305.6	2306.6	2306.6	2305.6	2306.1	2305.6	2306.6	2306.6	2305.6	2306.6	2306.6
15.5°	2295.9	2296.9	2296.9	2295.9	2295.9	2295.9	2296.9	2296.9	2295.9	2296.9	2296.9
16°	2285.7	2286.7	2287.2	2285.7	2285.7	2285.7	2287.2	2286.7	2285.7	2286.7	2287.2
16.5°	2275.5	2276.0	2277.0	2275.5	2275.1	2275.5	2277.0	2276.0	2275.5	2276.0	2277.0
17°	2264.9	2265.4	2266.3	2264.4	2264.4	2264.4	2266.3	2265.4	2264.9	2265.4	2266.3
17.5°	2253.2	2254.2	2255.2	2253.2	2253.2	2253.2	2255.2	2254.2	2253.2	2254.2	2255.2
18°	2242.1	2242.6	2243.5	2242.1	2241.6	2242.1	2243.5	2242.6	2242.1	2242.6	2243.5
18.5°	2230.4	2230.9	2231.9	2229.9	2229.5	2229.9	2231.9	2230.9	2230.4	2230.9	2231.9
19°	2217.8	2218.8	2219.8	2217.8	2216.8	2217.8	2219.8	2218.8	2217.8	2218.8	2219.8
19.5°	2205.7	2206.2	2207.1	2205.2	2204.7	2205.2	2207.1	2206.2	2205.7	2206.2	2207.1
20°	2192.6	2193.6	2194.5	2192.1	2191.6	2192.1	2194.5	2193.6	2192.6	2193.6	2194.5
20.5°	2180.0	2180.5	2181.4	2179.0	2178.5	2179.0	2181.4	2180.5	2180.0	2180.5	2181.4
21°	2166.4	2166.9	2167.8	2165.4	2164.9	2165.4	2167.8	2166.9	2166.4	2166.9	2167.8



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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°	2124.7	2124.7	2125.2	2123.2	2123.2	2123.2	2125.2	2124.7	2124.7	2124.7	2125.2
23°	2110.1	2110.1	2110.1	2108.7	2108.2	2108.7	2110.1	2110.1	2110.1	2110.1	2110.1
23.5°	2095.6	2095.6	2094.6	2093.6	2093.6	2093.6	2094.6	2095.6	2095.6	2095.6	2094.6
24°	2080.5	2080.5	2079.1	2078.6	2079.6	2078.6	2079.1	2080.5	2080.5	2080.5	2079.1
24.5°	2065.5	2065.0	2063.1	2063.1	2064.5	2063.1	2063.1	2065.0	2065.5	2065.0	2063.1
25°	2051.4	2049.0	2046.6	2047.1	2043.2	2047.1	2046.6	2049.0	2051.4	2049.0	2046.6
25.5°	2034.9	2033.5	2030.1	2031.5	2022.8	2031.5	2030.1	2033.5	2034.9	2033.5	2030.1
26°	2007.3	2017.5	2013.1	2016.0	2002.4	2016.0	2013.1	2017.5	2007.3	2017.5	2013.1
26.5°	1984.0	2001.5	1996.1	1999.5	1972.8	1999.5	1996.1	2001.5	1984.0	2001.5	1996.1
27°	1955.9	1986.4	1978.7	1976.7	1938.4	1976.7	1978.7	1986.4	1955.9	1986.4	1978.7
27.5°	1920.9	1965.6	1960.7	1955.9	1907.4	1955.9	1960.7	1965.6	1920.9	1965.6	1960.7
28°	1884.1	1937.9	1942.8	1933.6	1872.9	1933.6	1942.8	1937.9	1884.1	1937.9	1942.8
28.5°	1846.7	1914.1	1924.8	1902.0	1837.0	1902.0	1924.8	1914.1	1846.7	1914.1	1924.8
29°	1807.4	1884.6	1906.4	1869.0	1802.1	1869.0	1906.4	1884.6	1807.4	1884.6	1906.4
29.5°	1767.7	1849.6	1888.0	1837.0	1764.3	1837.0	1888.0	1849.6	1767.7	1849.6	1888.0
30°	1726.4	1813.7	1869.0	1803.1	1725.9	1803.1	1869.0	1813.7	1726.4	1813.7	1869.0
30.5°	1684.2	1775.9	1850.6	1767.7	1686.2	1767.7	1850.6	1775.9	1684.2	1775.9	1850.6
31°	1640.6	1738.1	1831.7	1731.3	1645.4	1731.3	1831.7	1738.1	1640.6	1738.1	1831.7
31.5°	1596.4	1698.8	1812.8	1694.9	1601.3	1694.9	1812.8	1698.8	1596.4	1698.8	1812.8
32°	1551.3	1659.0	1793.8	1657.5	1556.2	1657.5	1793.8	1659.0	1551.3	1659.0	1793.8
32.5°	1505.2	1617.8	1775.4	1619.2	1510.6	1619.2	1775.4	1617.8	1505.2	1617.8	1775.4
33°	1459.1	1576.5	1756.5	1579.0	1465.4	1579.0	1756.5	1576.5	1459.1	1576.5	1756.5
33.5°	1412.6	1533.4	1734.7	1537.7	1416.5	1537.7	1734.7	1533.4	1412.6	1533.4	1734.7
34°	1367.0	1489.7	1711.4	1494.5	1369.9	1494.5	1711.4	1489.7	1367.0	1489.7	1711.4
34.5°	1320.9	1445.6	1684.2	1449.9	1323.8	1449.9	1684.2	1445.6	1320.9	1445.6	1684.2
35°	1275.3	1401.4	1651.2	1404.8	1279.7	1404.8	1651.2	1401.4	1275.3	1401.4	1651.2
35.5°	1230.7	1357.8	1615.8	1360.7	1234.1	1360.7	1615.8	1357.8	1230.7	1357.8	1615.8
36°	1186.5	1313.1	1576.5	1315.6	1191.4	1315.6	1576.5	1313.1	1186.5	1313.1	1576.5
36.5°	1141.9	1269.5	1534.3	1271.4	1147.7	1271.4	1534.3	1269.5	1141.9	1269.5	1534.3
37°	1097.7	1225.8	1489.7	1227.8	1104.5	1227.8	1489.7	1225.8	1097.7	1225.8	1489.7
37.5°	1053.1	1182.6	1444.6	1185.5	1060.9	1185.5	1444.6	1182.6	1053.1	1182.6	1444.6
38°	1008.5	1139.5	1398.0	1142.9	1017.2	1142.9	1398.0	1139.5	1008.5	1139.5	1398.0
38.5°	963.4	1097.7	1351.9	1101.6	972.6	1101.6	1351.9	1097.7	963.4	1097.7	1351.9
39°	919.7	1055.5	1305.4	1060.4	928.9	1060.4	1305.4	1055.5	919.7	1055.5	1305.4
39.5°	876.5	1013.3	1258.3	1019.7	883.8	1019.7	1258.3	1013.3	876.5	1013.3	1258.3
40°	832.4	970.7	1210.3	977.9	840.7	977.9	1210.3	970.7	832.4	970.7	1210.3
40.5°	789.2	928.5	1161.8	935.7	797.0	935.7	1161.8	928.5	789.2	928.5	1161.8
41°	747.5	886.7	1113.3	894.0	754.8	894.0	1113.3	886.7	747.5	886.7	1113.3
41.5°	705.8	845.0	1064.3	852.3	713.6	852.3	1064.3	845.0	705.8	845.0	1064.3
42°	665.5	804.3	1015.3	810.6	673.8	810.6	1015.3	804.3	665.5	804.3	1015.3
42.5°	625.8	763.5	967.3	770.3	634.5	770.3	967.3	763.5	625.8	763.5	967.3
43°	586.5	723.7	919.2	729.6	595.7	729.6	919.2	723.7	586.5	723.7	919.2
43.5°	547.2	684.5	872.2	691.2	557.8	691.2	872.2	684.5	547.2	684.5	872.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	436.1	570.9	737.3	578.2	447.7	578.2	737.3	570.9	436.1	570.9	737.3
45.5°	402.1	534.6	695.1	542.8	413.3	542.8	695.1	534.6	402.1	534.6	695.1
46°	369.6	499.2	654.9	507.9	380.3	507.9	654.9	499.2	369.6	499.2	654.9
46.5°	336.6	463.3	615.1	473.0	348.8	473.0	615.1	463.3	336.6	463.3	615.1
47°	305.6	429.3	576.3	438.5	319.2	438.5	576.3	429.3	305.6	429.3	576.3
47.5°	274.6	396.3	538.9	404.6	290.1	404.6	538.9	396.3	274.6	396.3	538.9
48°	247.4	364.8	503.0	373.0	261.9	373.0	503.0	364.8	247.4	364.8	503.0
48.5°	221.2	333.7	468.6	343.0	236.7	343.0	468.6	333.7	221.2	333.7	468.6
49°	199.4	303.2	434.2	313.4	213.4	313.4	434.2	303.2	199.4	303.2	434.2
49.5°	178.5	274.6	401.2	285.2	191.1	285.2	401.2	274.6	178.5	274.6	401.2
50°	157.7	247.4	368.7	258.1	169.3	258.1	368.7	247.4	157.7	247.4	368.7
50.5°	137.8	221.7	338.6	232.8	148.0	232.8	338.6	221.7	137.8	221.7	338.6
51°	118.8	199.4	309.5	210.0	130.0	210.0	309.5	199.4	118.8	199.4	309.5
51.5°	103.3	178.0	281.8	187.7	113.0	187.7	281.8	178.0	103.3	178.0	281.8
52°	88.3	157.2	255.2	166.4	97.0	166.4	255.2	157.2	88.3	157.2	255.2
52.5°	74.2	136.8	229.9	146.0	82.0	146.0	229.9	136.8	74.2	136.8	229.9
53°	61.1	118.4	207.6	128.1	67.9	128.1	207.6	118.4	61.1	118.4	207.6
53.5°	50.4	101.9	185.8	111.6	54.3	111.6	185.8	101.9	50.4	101.9	185.8
54°	39.3	86.8	165.4	95.6	43.2	95.6	165.4	86.8	39.3	86.8	165.4
54.5°	28.6	72.8	146.5	80.5	34.9	80.5	146.5	72.8	28.6	72.8	146.5
55°	20.9	60.6	128.1	66.5	26.7	66.5	128.1	60.6	20.9	60.6	128.1
55.5°	13.1	49.5	111.6	53.4	18.4	53.4	111.6	49.5	13.1	49.5	111.6
56°	8.7	38.8	95.6	41.7	10.2	41.7	95.6	38.8	8.7	38.8	95.6
56.5°	6.8	28.1	82.0	32.0	6.3	32.0	82.0	28.1	6.8	28.1	82.0
57°	4.9	18.4	69.9	23.3	5.3	23.3	69.9	18.4	4.9	18.4	69.9
57.5°	4.9	11.6	58.7	15.5	4.9	15.5	58.7	11.6	4.9	11.6	58.7
58°	4.4	7.3	49.0	10.2	4.9	10.2	49.0	7.3	4.4	7.3	49.0
58.5°	4.4	4.9	40.7	7.3	4.4	7.3	40.7	4.9	4.4	4.9	40.7
59°	3.9	3.9	33.0	5.3	4.4	5.3	33.0	3.9	3.9	3.9	33.0
59.5°	3.9	3.9	26.7	3.9	4.4	3.9	26.7	3.9	3.9	3.9	26.7
60°	3.9	3.9	21.3	3.9	3.9	3.9	21.3	3.9	3.9	3.9	21.3
60.5°	3.4	3.4	16.5	3.9	3.9	3.9	16.5	3.4	3.4	3.4	16.5
61°	3.4	3.4	13.1	3.4	3.9	3.4	13.1	3.4	3.4	3.4	13.1
61.5°	3.4	3.4	9.7	3.4	3.4	3.4	9.7	3.4	3.4	3.4	9.7
62°	2.9	2.9	7.3	3.4	3.4	3.4	7.3	2.9	2.9	2.9	7.3
62.5°	2.9	2.9	5.3	2.9	3.4	2.9	5.3	2.9	2.9	2.9	5.3
63°	2.9	2.9	3.9	2.9	2.9	2.9	3.9	2.9	2.9	2.9	3.9
63.5°	2.9	2.4	2.9	2.9	2.9	2.9	2.9	2.4	2.9	2.4	2.9
64°	2.4	2.4	2.4	2.4	2.9	2.4	2.4	2.4	2.4	2.4	2.4
64.5°	2.4	2.4	1.9	2.4	2.9	2.4	1.9	2.4	2.4	2.4	1.9
65°	2.4	2.4	1.9	2.4	2.4	2.4	1.9	2.4	2.4	2.4	1.9
65.5°	2.4	1.9	1.9	2.4	2.4	2.4	1.9	1.9	2.4	1.9	1.9
66°	2.4	1.9	1.5	1.9	2.4	1.9	1.5	1.9	2.4	1.9	1.5



TEST NUMBER: P776639

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.9	1.9	1.5	1.9	1.9	1.9	1.5	1.9	1.9	1.9	1.5
68°	1.9	1.5	1.5	1.9	1.9	1.9	1.5	1.5	1.9	1.5	1.5
68.5°	1.9	1.5	1.0	1.5	1.9	1.5	1.0	1.5	1.9	1.5	1.0
69°	1.5	1.5	1.0	1.5	1.9	1.5	1.0	1.5	1.5	1.5	1.0
69.5°	1.5	1.5	1.0	1.5	1.9	1.5	1.0	1.5	1.5	1.5	1.0
70°	1.5	1.5	1.0	1.5	1.5	1.5	1.0	1.5	1.5	1.5	1.0
70.5°	1.5	1.5	1.0	1.5	1.5	1.5	1.0	1.5	1.5	1.5	1.0
71°	1.5	1.0	1.0	1.5	1.5	1.5	1.0	1.0	1.5	1.0	1.0
71.5°	1.5	1.0	1.0	1.0	1.5	1.0	1.0	1.0	1.5	1.0	1.0
72°	1.5	1.0	1.0	1.0	1.5	1.0	1.0	1.0	1.5	1.0	1.0
72.5°	1.0	1.0	0.5	1.0	1.5	1.0	0.5	1.0	1.0	1.0	0.5
73°	1.0	1.0	0.5	1.0	1.5	1.0	0.5	1.0	1.0	1.0	0.5
73.5°	1.0	1.0	0.5	1.0	1.0	1.0	0.5	1.0	1.0	1.0	0.5
74°	1.0	1.0	0.5	1.0	1.0	1.0	0.5	1.0	1.0	1.0	0.5
74.5°	1.0	1.0	0.5	1.0	1.0	1.0	0.5	1.0	1.0	1.0	0.5
75°	1.0	1.0	0.5	1.0	1.0	1.0	0.5	1.0	1.0	1.0	0.5
75.5°	1.0	0.5	0.5	1.0	1.0	1.0	0.5	0.5	1.0	0.5	0.5
76°	1.0	0.5	0.5	0.5	1.0	0.5	0.5	0.5	1.0	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	1.0	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	1.0	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: P776639
CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-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: P776639

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2445.3	2445.3	2445.3	2445.3	2445.3	2445.3
0.5°	2445.3	2446.8	2445.3	2444.8	2444.8	2444.8
1°	2444.8	2446.3	2444.8	2444.3	2444.3	2444.3
1.5°	2443.9	2445.3	2443.9	2443.9	2443.9	2443.4
2°	2442.9	2444.3	2442.9	2442.9	2442.4	2442.4
2.5°	2441.9	2442.9	2441.9	2441.4	2441.0	2441.0
3°	2440.0	2441.4	2440.0	2440.0	2439.5	2439.5
3.5°	2438.0	2439.5	2438.0	2438.0	2437.6	2437.6
4°	2436.1	2437.1	2436.1	2435.6	2435.6	2435.6
4.5°	2433.2	2434.6	2433.2	2433.2	2433.2	2433.2
5°	2430.3	2431.7	2430.3	2430.3	2430.3	2430.3
5.5°	2427.4	2428.3	2427.4	2427.4	2426.9	2426.9
6°	2424.0	2424.9	2424.0	2423.5	2423.5	2423.5
6.5°	2420.1	2421.1	2420.1	2420.1	2419.6	2419.6
7°	2416.2	2417.2	2416.2	2415.7	2415.7	2415.7
7.5°	2411.4	2412.8	2411.4	2411.4	2411.4	2411.4
8°	2407.0	2408.0	2407.0	2407.0	2406.5	2406.5
8.5°	2401.7	2402.6	2401.7	2401.7	2401.7	2401.7
9°	2396.3	2397.3	2396.3	2396.3	2396.3	2396.3
9.5°	2390.5	2391.5	2390.5	2390.5	2390.5	2390.5
10°	2384.7	2385.7	2384.7	2384.7	2384.7	2384.7
10.5°	2377.9	2379.3	2377.9	2378.4	2378.4	2378.4
11°	2371.6	2372.6	2371.6	2372.1	2371.6	2371.6
11.5°	2364.3	2365.3	2364.3	2364.8	2364.8	2364.8
12°	2357.0	2358.0	2357.0	2357.5	2357.5	2357.5
12.5°	2349.3	2349.8	2349.3	2349.8	2349.8	2349.3
13°	2341.0	2342.0	2341.0	2342.0	2342.0	2341.5
13.5°	2332.8	2333.7	2332.8	2333.7	2333.3	2333.3
14°	2324.0	2324.5	2324.0	2325.0	2325.0	2324.5
14.5°	2315.3	2315.3	2315.3	2316.3	2315.8	2315.3
15°	2305.6	2306.1	2305.6	2306.6	2306.6	2305.6
15.5°	2295.9	2295.9	2295.9	2296.9	2296.9	2295.9
16°	2285.7	2285.7	2285.7	2287.2	2286.7	2285.7
16.5°	2275.5	2275.1	2275.5	2277.0	2276.0	2275.5
17°	2264.4	2264.4	2264.4	2266.3	2265.4	2264.9
17.5°	2253.2	2253.2	2253.2	2255.2	2254.2	2253.2
18°	2242.1	2241.6	2242.1	2243.5	2242.6	2242.1
18.5°	2229.9	2229.5	2229.9	2231.9	2230.9	2230.4
19°	2217.8	2216.8	2217.8	2219.8	2218.8	2217.8
19.5°	2205.2	2204.7	2205.2	2207.1	2206.2	2205.7
20°	2192.1	2191.6	2192.1	2194.5	2193.6	2192.6
20.5°	2179.0	2178.5	2179.0	2181.4	2180.5	2180.0
21°	2165.4	2164.9	2165.4	2167.8	2166.9	2166.4



TEST NUMBER: P776639

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2123.2	2123.2	2123.2	2125.2	2124.7	2124.7
23°	2108.7	2108.2	2108.7	2110.1	2110.1	2110.1
23.5°	2093.6	2093.6	2093.6	2094.6	2095.6	2095.6
24°	2078.6	2079.6	2078.6	2079.1	2080.5	2080.5
24.5°	2063.1	2064.5	2063.1	2063.1	2065.0	2065.5
25°	2047.1	2043.2	2047.1	2046.6	2049.0	2051.4
25.5°	2031.5	2022.8	2031.5	2030.1	2033.5	2034.9
26°	2016.0	2002.4	2016.0	2013.1	2017.5	2007.3
26.5°	1999.5	1972.8	1999.5	1996.1	2001.5	1984.0
27°	1976.7	1938.4	1976.7	1978.7	1986.4	1955.9
27.5°	1955.9	1907.4	1955.9	1960.7	1965.6	1920.9
28°	1933.6	1872.9	1933.6	1942.8	1937.9	1884.1
28.5°	1902.0	1837.0	1902.0	1924.8	1914.1	1846.7
29°	1869.0	1802.1	1869.0	1906.4	1884.6	1807.4
29.5°	1837.0	1764.3	1837.0	1888.0	1849.6	1767.7
30°	1803.1	1725.9	1803.1	1869.0	1813.7	1726.4
30.5°	1767.7	1686.2	1767.7	1850.6	1775.9	1684.2
31°	1731.3	1645.4	1731.3	1831.7	1738.1	1640.6
31.5°	1694.9	1601.3	1694.9	1812.8	1698.8	1596.4
32°	1657.5	1556.2	1657.5	1793.8	1659.0	1551.3
32.5°	1619.2	1510.6	1619.2	1775.4	1617.8	1505.2
33°	1579.0	1465.4	1579.0	1756.5	1576.5	1459.1
33.5°	1537.7	1416.5	1537.7	1734.7	1533.4	1412.6
34°	1494.5	1369.9	1494.5	1711.4	1489.7	1367.0
34.5°	1449.9	1323.8	1449.9	1684.2	1445.6	1320.9
35°	1404.8	1279.7	1404.8	1651.2	1401.4	1275.3
35.5°	1360.7	1234.1	1360.7	1615.8	1357.8	1230.7
36°	1315.6	1191.4	1315.6	1576.5	1313.1	1186.5
36.5°	1271.4	1147.7	1271.4	1534.3	1269.5	1141.9
37°	1227.8	1104.5	1227.8	1489.7	1225.8	1097.7
37.5°	1185.5	1060.9	1185.5	1444.6	1182.6	1053.1
38°	1142.9	1017.2	1142.9	1398.0	1139.5	1008.5
38.5°	1101.6	972.6	1101.6	1351.9	1097.7	963.4
39°	1060.4	928.9	1060.4	1305.4	1055.5	919.7
39.5°	1019.7	883.8	1019.7	1258.3	1013.3	876.5
40°	977.9	840.7	977.9	1210.3	970.7	832.4
40.5°	935.7	797.0	935.7	1161.8	928.5	789.2
41°	894.0	754.8	894.0	1113.3	886.7	747.5
41.5°	852.3	713.6	852.3	1064.3	845.0	705.8
42°	810.6	673.8	810.6	1015.3	804.3	665.5
42.5°	770.3	634.5	770.3	967.3	763.5	625.8
43°	729.6	595.7	729.6	919.2	723.7	586.5
43.5°	691.2	557.8	691.2	872.2	684.5	547.2



TEST NUMBER: P776639

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	578.2	447.7	578.2	737.3	570.9	436.1
45.5°	542.8	413.3	542.8	695.1	534.6	402.1
46°	507.9	380.3	507.9	654.9	499.2	369.6
46.5°	473.0	348.8	473.0	615.1	463.3	336.6
47°	438.5	319.2	438.5	576.3	429.3	305.6
47.5°	404.6	290.1	404.6	538.9	396.3	274.6
48°	373.0	261.9	373.0	503.0	364.8	247.4
48.5°	343.0	236.7	343.0	468.6	333.7	221.2
49°	313.4	213.4	313.4	434.2	303.2	199.4
49.5°	285.2	191.1	285.2	401.2	274.6	178.5
50°	258.1	169.3	258.1	368.7	247.4	157.7
50.5°	232.8	148.0	232.8	338.6	221.7	137.8
51°	210.0	130.0	210.0	309.5	199.4	118.8
51.5°	187.7	113.0	187.7	281.8	178.0	103.3
52°	166.4	97.0	166.4	255.2	157.2	88.3
52.5°	146.0	82.0	146.0	229.9	136.8	74.2
53°	128.1	67.9	128.1	207.6	118.4	61.1
53.5°	111.6	54.3	111.6	185.8	101.9	50.4
54°	95.6	43.2	95.6	165.4	86.8	39.3
54.5°	80.5	34.9	80.5	146.5	72.8	28.6
55°	66.5	26.7	66.5	128.1	60.6	20.9
55.5°	53.4	18.4	53.4	111.6	49.5	13.1
56°	41.7	10.2	41.7	95.6	38.8	8.7
56.5°	32.0	6.3	32.0	82.0	28.1	6.8
57°	23.3	5.3	23.3	69.9	18.4	4.9
57.5°	15.5	4.9	15.5	58.7	11.6	4.9
58°	10.2	4.9	10.2	49.0	7.3	4.4
58.5°	7.3	4.4	7.3	40.7	4.9	4.4
59°	5.3	4.4	5.3	33.0	3.9	3.9
59.5°	3.9	4.4	3.9	26.7	3.9	3.9
60°	3.9	3.9	3.9	21.3	3.9	3.9
60.5°	3.9	3.9	3.9	16.5	3.4	3.4
61°	3.4	3.9	3.4	13.1	3.4	3.4
61.5°	3.4	3.4	3.4	9.7	3.4	3.4
62°	3.4	3.4	3.4	7.3	2.9	2.9
62.5°	2.9	3.4	2.9	5.3	2.9	2.9
63°	2.9	2.9	2.9	3.9	2.9	2.9
63.5°	2.9	2.9	2.9	2.9	2.4	2.9
64°	2.4	2.9	2.4	2.4	2.4	2.4
64.5°	2.4	2.9	2.4	1.9	2.4	2.4
65°	2.4	2.4	2.4	1.9	2.4	2.4
65.5°	2.4	2.4	2.4	1.9	1.9	2.4
66°	1.9	2.4	1.9	1.5	1.9	2.4



TEST NUMBER: P776639

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.9	1.9	1.9	1.5	1.9	1.9
68°	1.9	1.9	1.9	1.5	1.5	1.9
68.5°	1.5	1.9	1.5	1.0	1.5	1.9
69°	1.5	1.9	1.5	1.0	1.5	1.5
69.5°	1.5	1.9	1.5	1.0	1.5	1.5
70°	1.5	1.5	1.5	1.0	1.5	1.5
70.5°	1.5	1.5	1.5	1.0	1.5	1.5
71°	1.5	1.5	1.5	1.0	1.0	1.5
71.5°	1.0	1.5	1.0	1.0	1.0	1.5
72°	1.0	1.5	1.0	1.0	1.0	1.5
72.5°	1.0	1.5	1.0	0.5	1.0	1.0
73°	1.0	1.5	1.0	0.5	1.0	1.0
73.5°	1.0	1.0	1.0	0.5	1.0	1.0
74°	1.0	1.0	1.0	0.5	1.0	1.0
74.5°	1.0	1.0	1.0	0.5	1.0	1.0
75°	1.0	1.0	1.0	0.5	1.0	1.0
75.5°	1.0	1.0	1.0	0.5	0.5	1.0
76°	0.5	1.0	0.5	0.5	0.5	1.0
76.5°	0.5	1.0	0.5	0.5	0.5	0.5
77°	0.5	1.0	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: P776639
CATALOG NUMBER: HCDJBL4050CSD-HCD4TSQMB-5000lm-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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— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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21.5°	2152.8	2153.3	2153.8	2151.8	2151.4	2151.8	2153.8	2153.3	2152.8	2153.3	2153.8
22°	2138.7	2139.2	2139.7	2137.3	2137.3	2137.3	2139.7	2139.2	2138.7	2139.2	2139.7



44°	509.3	645.6	825.6	652.4	520.0	652.4	825.6	645.6	509.3	645.6	825.6
44.5°	472.5	608.3	781.0	615.1	483.1	615.1	781.0	608.3	472.5	608.3	781.0



66.5°	1.9	1.9	1.5	1.9	2.4	1.9	1.5	1.9	1.9	1.9	1.5
67°	1.9	1.9	1.5	1.9	1.9	1.9	1.5	1.9	1.9	1.9	1.5



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°	2151.8	2151.4	2151.8	2153.8	2153.3	2152.8
22°	2137.3	2137.3	2137.3	2139.7	2139.2	2138.7



44°	652.4	520.0	652.4	825.6	645.6	509.3
44.5°	615.1	483.1	615.1	781.0	608.3	472.5

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66.5°	1.9	2.4	1.9	1.5	1.9	1.9
67°	1.9	1.9	1.9	1.5	1.9	1.9

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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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Scaled Data Report



(END OF REPORT)