

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: P776536

Luminaire Tested: HCDJBS4050CSD-HCD42TRMW-4000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776536
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156A001)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD42TRMW-4000lm-3000K
Description: 4 INCH ROUND NARROW MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3714.7 lumens
Efficiency: N/A
Efficacy: 97.8 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.97 / 0.95
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

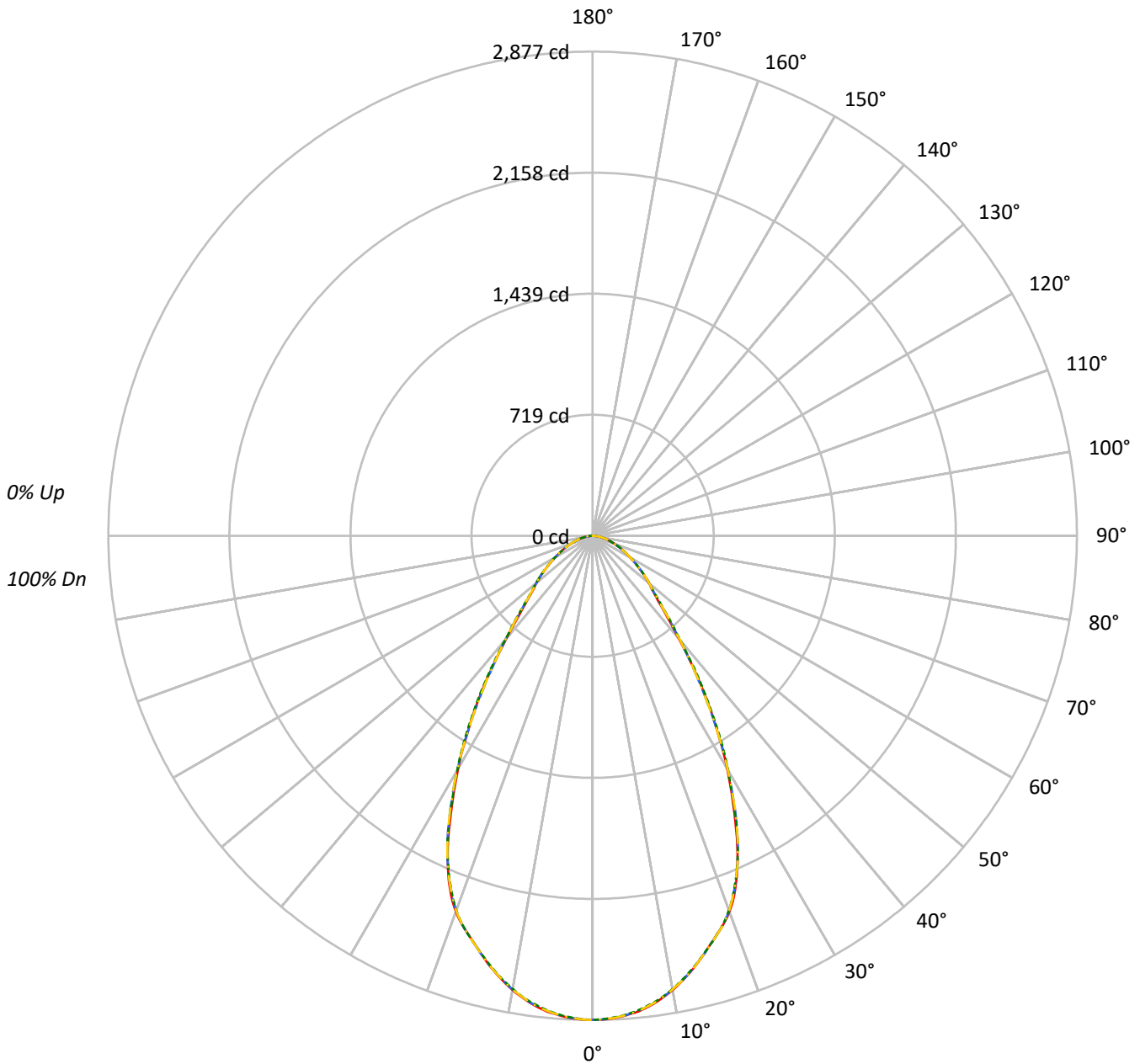
Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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								
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89								
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80								
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71								
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64								
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58								
6	80	69	62	57	78	68	61	56	67	60	56	65	60	55	64	59	55	53								
7	75	64	57	52	74	63	56	52	62	56	51	61	55	51	59	54	51	49								
8	71	60	52	48	70	59	52	47	58	52	47	57	51	47	56	51	47	45								
9	67	56	49	44	66	55	48	44	54	48	44	53	48	44	52	47	43	42								
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	362045	362045	362045	362045
5°	359486	358716	359486	358716
10°	350199	349420	350199	349420
15°	334713	334309	334713	334309
20°	318263	317125	318263	317125
25°	282469	283385	282469	283385
30°	232408	233629	232408	233629
35°	180290	182256	180290	182256
40°	130952	133235	130952	133235
45°	99152	101626	99152	101626
50°	85383	86068	85383	86068
55°	74227	75061	74227	75061
60°	64863	65467	64863	65467
65°	57026	57473	57026	57473
70°	50337	50595	50337	50595
75°	44200	44200	44200	44200
80°	38266	37976	38266	37976
85°	30612	30612	30612	30612

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 101626 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.0	7.2
10°-20°	721.6	19.4
20°-30°	924.2	24.9
30°-40°	732.3	19.7
40°-50°	448.4	12.1
50°-60°	306.5	8.3
60°-70°	191.9	5.2
70°-80°	97.2	2.6
80°-90°	24.5	0.7
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°	1913.8	51.5
0°-40°	2646.1	71.2
0°-60°	3401.1	91.6
0°-90°	3714.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3714.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2877	2877	2877	2877	2877	
5°	2846	2840	2846	2840	2846	268
15°	2569	2566	2569	2566	2569	722
25°	2034	2041	2034	2041	2034	922
35°	1174	1186	1174	1186	1174	731
45°	557	571	557	571	557	443
55°	338	342	338	342	338	305
65°	192	193	192	193	192	191
75°	91	91	91	91	91	97
85°	21	21	21	21	21	24
90°	0	1	0	1	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°	2876.8	2876.8	2876.8	2876.8	2876.8	2876.8	2876.8	2876.8	2876.8	2876.8	2876.8
0.5°	2877.2	2876.8	2876.1	2875.7	2874.5	2875.7	2876.1	2876.8	2877.2	2876.8	2876.1
1°	2876.1	2875.7	2875.3	2874.9	2873.4	2874.9	2875.3	2875.7	2876.1	2875.7	2875.3
1.5°	2874.5	2873.7	2873.7	2873.0	2871.8	2873.0	2873.7	2873.7	2874.5	2873.7	2873.7
2°	2872.2	2871.8	2871.0	2870.7	2869.1	2870.7	2871.0	2871.8	2872.2	2871.8	2871.0
2.5°	2869.5	2868.7	2868.0	2867.6	2865.7	2867.6	2868.0	2868.7	2869.5	2868.7	2868.0
3°	2865.7	2864.9	2864.1	2863.3	2861.4	2863.3	2864.1	2864.9	2865.7	2864.9	2864.1
3.5°	2861.4	2860.6	2859.5	2858.7	2857.6	2858.7	2859.5	2860.6	2861.4	2860.6	2859.5
4°	2856.4	2856.0	2854.5	2853.7	2851.8	2853.7	2854.5	2856.0	2856.4	2856.0	2854.5
4.5°	2851.0	2850.2	2848.7	2847.9	2845.6	2847.9	2848.7	2850.2	2851.0	2850.2	2848.7
5°	2845.6	2844.5	2842.9	2842.2	2839.5	2842.2	2842.9	2844.5	2845.6	2844.5	2842.9
5.5°	2839.8	2837.1	2835.2	2834.4	2832.1	2834.4	2835.2	2837.1	2839.8	2837.1	2835.2
6°	2831.0	2829.4	2827.5	2826.4	2823.3	2826.4	2827.5	2829.4	2831.0	2829.4	2827.5
6.5°	2822.1	2821.0	2818.6	2817.5	2814.4	2817.5	2818.6	2821.0	2822.1	2821.0	2818.6
7°	2812.9	2811.3	2810.2	2808.2	2805.5	2808.2	2810.2	2811.3	2812.9	2811.3	2810.2
7.5°	2802.5	2800.9	2799.4	2798.6	2795.9	2798.6	2799.4	2800.9	2802.5	2800.9	2799.4
8°	2791.3	2790.1	2788.6	2787.4	2785.9	2787.4	2788.6	2790.1	2791.3	2790.1	2788.6
8.5°	2779.7	2778.2	2776.7	2775.5	2774.0	2775.5	2776.7	2778.2	2779.7	2778.2	2776.7
9°	2767.4	2766.3	2764.3	2763.2	2761.6	2763.2	2764.3	2766.3	2767.4	2766.3	2764.3
9.5°	2753.9	2753.2	2751.2	2750.1	2748.5	2750.1	2751.2	2753.2	2753.9	2753.2	2751.2
10°	2740.4	2739.3	2737.7	2736.2	2734.3	2736.2	2737.7	2739.3	2740.4	2739.3	2737.7
10.5°	2725.4	2724.6	2722.7	2721.6	2720.0	2721.6	2722.7	2724.6	2725.4	2724.6	2722.7
11°	2710.4	2709.6	2708.1	2706.5	2704.6	2706.5	2708.1	2709.6	2710.4	2709.6	2708.1
11.5°	2694.6	2693.8	2692.3	2690.7	2689.2	2690.7	2692.3	2693.8	2694.6	2693.8	2692.3
12°	2678.4	2677.6	2676.5	2674.6	2673.0	2674.6	2676.5	2677.6	2678.4	2677.6	2676.5
12.5°	2661.5	2660.7	2659.5	2657.6	2655.7	2657.6	2659.5	2660.7	2661.5	2660.7	2659.5
13°	2644.1	2643.3	2642.2	2640.7	2638.7	2640.7	2642.2	2643.3	2644.1	2643.3	2642.2
13.5°	2626.0	2625.2	2624.5	2622.9	2621.4	2622.9	2624.5	2625.2	2626.0	2625.2	2624.5
14°	2607.5	2607.1	2606.4	2604.8	2603.3	2604.8	2606.4	2607.1	2607.5	2607.1	2606.4
14.5°	2588.3	2587.9	2587.5	2585.9	2584.4	2585.9	2587.5	2587.9	2588.3	2587.9	2587.5
15°	2569.0	2569.0	2568.2	2567.5	2565.9	2567.5	2568.2	2569.0	2569.0	2569.0	2568.2
15.5°	2549.0	2549.0	2549.7	2549.0	2548.2	2549.0	2549.7	2549.0	2549.0	2549.0	2549.7
16°	2529.7	2530.1	2531.2	2530.9	2530.1	2530.9	2531.2	2530.1	2529.7	2530.1	2531.2
16.5°	2510.4	2511.2	2512.7	2512.7	2512.4	2512.7	2512.7	2511.2	2510.4	2511.2	2512.7
17°	2492.3	2493.1	2494.6	2494.2	2494.6	2494.2	2494.6	2493.1	2492.3	2493.1	2494.6
17.5°	2474.6	2475.4	2476.5	2476.1	2475.8	2476.1	2476.5	2475.4	2474.6	2475.4	2476.5
18°	2457.3	2457.6	2458.4	2457.6	2456.9	2457.6	2458.4	2457.6	2457.3	2457.6	2458.4
18.5°	2438.8	2438.8	2438.8	2438.0	2436.8	2438.0	2438.8	2438.8	2438.8	2438.8	2438.8
19°	2419.9	2418.7	2418.0	2416.8	2415.7	2416.8	2418.0	2418.7	2419.9	2418.7	2418.0
19.5°	2399.1	2397.5	2395.2	2394.5	2393.3	2394.5	2395.2	2397.5	2399.1	2397.5	2395.2
20°	2376.4	2374.4	2370.2	2370.6	2367.9	2370.6	2370.2	2374.4	2376.4	2374.4	2370.2
20.5°	2351.3	2348.2	2343.2	2344.8	2341.7	2344.8	2343.2	2348.2	2351.3	2348.2	2343.2
21°	2325.1	2320.5	2314.7	2316.6	2312.8	2316.6	2314.7	2320.5	2325.1	2320.5	2314.7



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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°	2229.2	2224.6	2220.7	2220.3	2218.4	2220.3	2220.7	2224.6	2229.2	2224.6	2220.7
23°	2192.6	2188.7	2188.0	2185.3	2184.5	2185.3	2188.0	2188.7	2192.6	2188.7	2188.0
23.5°	2155.2	2151.7	2153.7	2149.0	2151.0	2149.0	2153.7	2151.7	2155.2	2151.7	2153.7
24°	2116.3	2113.6	2118.2	2112.1	2115.5	2112.1	2118.2	2113.6	2116.3	2113.6	2118.2
24.5°	2076.2	2075.1	2080.9	2074.7	2079.3	2074.7	2080.9	2075.1	2076.2	2075.1	2080.9
25°	2034.2	2035.0	2041.9	2037.3	2040.8	2037.3	2041.9	2035.0	2034.2	2035.0	2041.9
25.5°	1990.7	1995.7	2001.9	1999.9	2000.7	1999.9	2001.9	1995.7	1990.7	1995.7	2001.9
26°	1946.0	1954.9	1960.6	1961.0	1958.0	1961.0	1960.6	1954.9	1946.0	1954.9	1960.6
26.5°	1900.2	1913.3	1917.9	1920.6	1913.6	1920.6	1917.9	1913.3	1900.2	1913.3	1917.9
27°	1855.5	1870.1	1874.7	1879.0	1868.6	1879.0	1874.7	1870.1	1855.5	1870.1	1874.7
27.5°	1811.5	1825.4	1830.8	1836.2	1822.7	1836.2	1830.8	1825.4	1811.5	1825.4	1830.8
28°	1767.6	1780.7	1786.1	1791.5	1776.9	1791.5	1786.1	1780.7	1767.6	1780.7	1786.1
28.5°	1724.9	1735.3	1741.4	1746.1	1732.6	1746.1	1741.4	1735.3	1724.9	1735.3	1741.4
29°	1682.5	1689.4	1696.7	1699.8	1690.6	1699.8	1696.7	1689.4	1682.5	1689.4	1696.7
29.5°	1640.9	1644.3	1652.4	1653.6	1649.3	1653.6	1652.4	1644.3	1640.9	1644.3	1652.4
30°	1599.3	1598.1	1607.0	1607.4	1607.7	1607.4	1607.0	1598.1	1599.3	1598.1	1607.0
30.5°	1556.1	1553.4	1561.9	1562.7	1568.4	1562.7	1561.9	1553.4	1556.1	1553.4	1561.9
31°	1513.3	1507.6	1516.4	1518.0	1526.8	1518.0	1516.4	1507.6	1513.3	1507.6	1516.4
31.5°	1469.4	1463.6	1471.0	1473.7	1484.8	1473.7	1471.0	1463.6	1469.4	1463.6	1471.0
32°	1424.7	1419.3	1425.9	1430.1	1441.7	1430.1	1425.9	1419.3	1424.7	1419.3	1425.9
32.5°	1381.6	1377.0	1381.6	1387.0	1398.5	1387.0	1381.6	1377.0	1381.6	1377.0	1381.6
33°	1338.0	1334.6	1336.1	1343.8	1354.6	1343.8	1336.1	1334.6	1338.0	1334.6	1336.1
33.5°	1299.1	1292.2	1291.0	1300.7	1310.3	1300.7	1291.0	1292.2	1299.1	1292.2	1291.0
34°	1257.1	1249.8	1246.4	1258.3	1268.3	1258.3	1246.4	1249.8	1257.1	1249.8	1246.4
34.5°	1215.5	1207.8	1202.8	1215.5	1226.7	1215.5	1202.8	1207.8	1215.5	1207.8	1202.8
35°	1173.5	1167.0	1161.6	1174.3	1186.3	1174.3	1161.6	1167.0	1173.5	1167.0	1161.6
35.5°	1132.7	1126.5	1120.8	1133.5	1146.6	1133.5	1120.8	1126.5	1132.7	1126.5	1120.8
36°	1092.6	1086.1	1081.1	1094.2	1107.7	1094.2	1081.1	1086.1	1092.6	1086.1	1081.1
36.5°	1052.9	1047.2	1042.5	1055.3	1068.0	1055.3	1042.5	1047.2	1052.9	1047.2	1042.5
37°	1012.9	1008.6	1004.8	1017.5	1028.7	1017.5	1004.8	1008.6	1012.9	1008.6	1004.8
37.5°	974.0	971.3	968.6	981.3	989.4	981.3	968.6	971.3	974.0	971.3	968.6
38°	935.4	935.1	933.9	945.8	950.5	945.8	933.9	935.1	935.4	935.1	933.9
38.5°	899.2	900.0	900.8	911.2	913.1	911.2	900.8	900.0	899.2	900.0	900.8
39°	864.2	866.1	867.6	877.6	877.3	877.6	867.6	866.1	864.2	866.1	867.6
39.5°	829.9	833.3	836.0	844.5	843.4	844.5	836.0	833.3	829.9	833.3	836.0
40°	797.1	801.0	805.6	812.5	811.0	812.5	805.6	801.0	797.1	801.0	805.6
40.5°	766.3	770.2	776.3	781.3	780.9	781.3	776.3	770.2	766.3	770.2	776.3
41°	736.6	740.5	748.6	752.1	753.2	752.1	748.6	740.5	736.6	740.5	748.6
41.5°	708.5	712.8	722.0	723.9	727.4	723.9	722.0	712.8	708.5	712.8	722.0
42°	682.3	686.6	696.6	697.7	702.4	697.7	696.6	686.6	682.3	686.6	696.6
42.5°	657.7	661.9	672.7	673.1	678.1	673.1	672.7	661.9	657.7	661.9	672.7
43°	634.2	638.8	649.2	650.0	654.6	650.0	649.2	638.8	634.2	638.8	649.2
43.5°	612.6	617.2	627.2	627.6	631.8	627.6	627.2	617.2	612.6	617.2	627.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	557.1	561.0	567.1	569.0	571.0	569.0	567.1	561.0	557.1	561.0	567.1
45.5°	540.9	544.0	549.8	551.7	553.3	551.7	549.8	544.0	540.9	544.0	549.8
46°	525.5	528.2	533.2	535.9	536.7	535.9	533.2	528.2	525.5	528.2	533.2
46.5°	511.3	513.6	517.4	520.5	521.3	520.5	517.4	513.6	511.3	513.6	517.4
47°	497.8	499.3	503.2	506.2	507.4	506.2	503.2	499.3	497.8	499.3	503.2
47.5°	485.1	486.2	489.7	493.1	494.7	493.1	489.7	486.2	485.1	486.2	489.7
48°	473.1	474.7	478.1	481.2	482.7	481.2	478.1	474.7	473.1	474.7	478.1
48.5°	463.5	464.3	466.9	470.0	471.2	470.0	466.9	464.3	463.5	464.3	466.9
49°	454.2	454.6	456.9	459.2	460.4	459.2	456.9	454.6	454.2	454.6	456.9
49.5°	445.4	445.8	447.3	449.2	449.6	449.2	447.3	445.8	445.4	445.8	447.3
50°	436.1	436.5	437.7	439.2	439.6	439.2	437.7	436.5	436.1	436.5	437.7
50.5°	426.9	427.3	428.0	429.6	429.6	429.6	428.0	427.3	426.9	427.3	428.0
51°	416.5	417.2	418.4	419.9	419.9	419.9	418.4	417.2	416.5	417.2	418.4
51.5°	406.5	406.8	408.4	410.3	410.7	410.3	408.4	406.8	406.5	406.8	408.4
52°	396.1	396.8	398.4	400.3	400.7	400.3	398.4	396.8	396.1	396.8	398.4
52.5°	385.7	386.4	388.4	389.9	390.7	389.9	388.4	386.4	385.7	386.4	388.4
53°	376.0	376.8	378.3	379.9	380.6	379.9	378.3	376.8	376.0	376.8	378.3
53.5°	366.0	366.8	368.3	370.2	371.0	370.2	368.3	366.8	366.0	366.8	368.3
54°	356.8	357.1	358.7	360.2	361.0	360.2	358.7	357.1	356.8	357.1	358.7
54.5°	347.5	347.9	349.4	351.0	351.8	351.0	349.4	347.9	347.5	347.9	349.4
55°	338.3	339.0	340.6	341.7	342.1	341.7	340.6	339.0	338.3	339.0	340.6
55.5°	329.4	330.2	331.7	332.9	333.3	332.9	331.7	330.2	329.4	330.2	331.7
56°	320.9	321.7	322.9	324.0	324.4	324.0	322.9	321.7	320.9	321.7	322.9
56.5°	312.5	313.2	314.4	315.5	315.9	315.5	314.4	313.2	312.5	313.2	314.4
57°	304.0	304.8	305.9	307.1	307.4	307.1	305.9	304.8	304.0	304.8	305.9
57.5°	295.5	296.7	297.8	298.6	299.4	298.6	297.8	296.7	295.5	296.7	297.8
58°	288.2	288.6	289.7	290.9	291.3	290.9	289.7	288.6	288.2	288.6	289.7
58.5°	280.5	280.9	282.0	282.8	283.2	282.8	282.0	280.9	280.5	280.9	282.0
59°	272.8	273.2	273.9	274.7	275.5	274.7	273.9	273.2	272.8	273.2	273.9
59.5°	265.1	265.5	266.2	267.4	267.8	267.4	266.2	265.5	265.1	265.5	266.2
60°	257.7	258.1	258.9	259.7	260.1	259.7	258.9	258.1	257.7	258.1	258.9
60.5°	250.4	250.8	251.6	252.4	252.7	252.4	251.6	250.8	250.4	250.8	251.6
61°	243.5	243.9	244.6	245.4	245.8	245.4	244.6	243.9	243.5	243.9	244.6
61.5°	236.6	236.9	237.7	238.5	238.9	238.5	237.7	236.9	236.6	236.9	237.7
62°	230.0	230.0	230.8	231.5	231.5	231.5	230.8	230.0	230.0	230.0	230.8
62.5°	223.1	223.5	223.8	224.6	225.0	224.6	223.8	223.5	223.1	223.5	223.8
63°	216.5	216.9	217.3	218.1	218.1	218.1	217.3	216.9	216.5	216.9	217.3
63.5°	210.0	210.4	210.7	211.5	211.9	211.5	210.7	210.4	210.0	210.4	210.7
64°	203.8	204.2	204.6	205.0	205.3	205.0	204.6	204.2	203.8	204.2	204.6
64.5°	197.6	198.0	198.4	198.8	199.2	198.8	198.4	198.0	197.6	198.0	198.4
65°	191.5	191.9	192.3	192.6	193.0	192.6	192.3	191.9	191.5	191.9	192.3
65.5°	185.7	185.7	186.1	186.9	186.9	186.9	186.1	185.7	185.7	185.7	186.1
66°	179.5	179.9	180.3	180.7	181.1	180.7	180.3	179.9	179.5	179.9	180.3



TEST NUMBER: P776536

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	162.6	163.0	163.4	163.7	163.7	163.7	163.4	163.0	162.6	163.0	163.4
68°	157.2	157.6	158.0	158.3	158.3	158.3	158.0	157.6	157.2	157.6	158.0
68.5°	151.8	152.2	152.6	152.6	153.0	152.6	152.6	152.2	151.8	152.2	152.6
69°	146.8	146.8	146.8	147.6	147.6	147.6	146.8	146.8	146.8	146.8	146.8
69.5°	141.4	141.8	141.8	142.2	142.6	142.2	141.8	141.8	141.4	141.8	141.8
70°	136.8	137.2	136.8	137.2	137.5	137.2	136.8	137.2	136.8	137.2	136.8
70.5°	131.8	132.1	132.1	132.1	132.5	132.1	132.1	132.1	131.8	132.1	132.1
71°	127.1	127.1	127.1	127.1	127.5	127.1	127.1	127.1	127.1	127.1	127.1
71.5°	122.1	122.1	122.5	122.5	122.5	122.5	122.5	122.1	122.1	122.1	122.5
72°	117.5	117.5	117.5	117.9	117.9	117.9	117.5	117.5	117.5	117.5	117.5
72.5°	112.9	112.9	112.9	113.3	113.3	113.3	112.9	112.9	112.9	112.9	112.9
73°	108.3	108.3	108.3	108.6	108.6	108.6	108.3	108.3	108.3	108.3	108.3
73.5°	103.6	103.6	104.0	104.0	104.0	104.0	104.0	103.6	103.6	103.6	104.0
74°	99.4	99.4	99.4	99.8	99.8	99.8	99.4	99.4	99.4	99.4	99.4
74.5°	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2
75°	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9
75.5°	86.7	86.7	86.7	86.7	87.1	86.7	86.7	86.7	86.7	86.7	86.7
76°	82.8	82.4	82.4	82.8	82.8	82.8	82.4	82.4	82.8	82.4	82.4
76.5°	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6
77°	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7
77.5°	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9
78°	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0
78.5°	63.6	63.6	63.2	63.2	63.6	63.2	63.2	63.6	63.6	63.6	63.2
79°	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7
79.5°	56.2	56.2	55.9	56.2	56.2	56.2	55.9	56.2	56.2	56.2	55.9
80°	52.8	52.8	52.4	52.4	52.4	52.4	52.4	52.8	52.8	52.8	52.4
80.5°	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3
81°	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8
81.5°	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4
82°	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3
82.5°	36.2	36.2	36.2	36.2	35.8	36.2	36.2	36.2	36.2	36.2	36.2
83°	33.1	33.1	33.1	32.7	32.7	32.7	33.1	33.1	33.1	33.1	33.1
83.5°	30.1	30.1	30.1	29.7	29.7	29.7	30.1	30.1	30.1	30.1	30.1
84°	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0
84.5°	24.3	23.9	23.9	23.9	23.9	23.9	23.9	23.9	24.3	23.9	23.9
85°	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2
85.5°	18.5	18.1	18.5	18.1	18.5	18.1	18.5	18.1	18.5	18.1	18.5
86°	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
86.5°	13.1	12.7	12.7	12.7	13.1	12.7	12.7	12.7	13.1	12.7	12.7
87°	10.4	10.4	10.4	10.0	10.4	10.0	10.4	10.4	10.4	10.4	10.4
87.5°	7.7	7.7	7.7	7.7	8.1	7.7	7.7	7.7	7.7	7.7	7.7
88°	5.0	5.4	5.4	5.8	5.8	5.8	5.4	5.4	5.0	5.4	5.4
88.5°	3.1	3.1	3.5	3.9	4.6	3.9	3.5	3.1	3.1	3.1	3.5



TEST NUMBER: P776536

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.4	0.8	1.2	0.8	0.4	0.0	0.0	0.0	0.4



TEST NUMBER: P776536

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2876.8	2876.8	2876.8	2876.8	2876.8	2876.8
0.5°	2875.7	2874.5	2875.7	2876.1	2876.8	2877.2
1°	2874.9	2873.4	2874.9	2875.3	2875.7	2876.1
1.5°	2873.0	2871.8	2873.0	2873.7	2873.7	2874.5
2°	2870.7	2869.1	2870.7	2871.0	2871.8	2872.2
2.5°	2867.6	2865.7	2867.6	2868.0	2868.7	2869.5
3°	2863.3	2861.4	2863.3	2864.1	2864.9	2865.7
3.5°	2858.7	2857.6	2858.7	2859.5	2860.6	2861.4
4°	2853.7	2851.8	2853.7	2854.5	2856.0	2856.4
4.5°	2847.9	2845.6	2847.9	2848.7	2850.2	2851.0
5°	2842.2	2839.5	2842.2	2842.9	2844.5	2845.6
5.5°	2834.4	2832.1	2834.4	2835.2	2837.1	2839.8
6°	2826.4	2823.3	2826.4	2827.5	2829.4	2831.0
6.5°	2817.5	2814.4	2817.5	2818.6	2821.0	2822.1
7°	2808.2	2805.5	2808.2	2810.2	2811.3	2812.9
7.5°	2798.6	2795.9	2798.6	2799.4	2800.9	2802.5
8°	2787.4	2785.9	2787.4	2788.6	2790.1	2791.3
8.5°	2775.5	2774.0	2775.5	2776.7	2778.2	2779.7
9°	2763.2	2761.6	2763.2	2764.3	2766.3	2767.4
9.5°	2750.1	2748.5	2750.1	2751.2	2753.2	2753.9
10°	2736.2	2734.3	2736.2	2737.7	2739.3	2740.4
10.5°	2721.6	2720.0	2721.6	2722.7	2724.6	2725.4
11°	2706.5	2704.6	2706.5	2708.1	2709.6	2710.4
11.5°	2690.7	2689.2	2690.7	2692.3	2693.8	2694.6
12°	2674.6	2673.0	2674.6	2676.5	2677.6	2678.4
12.5°	2657.6	2655.7	2657.6	2659.5	2660.7	2661.5
13°	2640.7	2638.7	2640.7	2642.2	2643.3	2644.1
13.5°	2622.9	2621.4	2622.9	2624.5	2625.2	2626.0
14°	2604.8	2603.3	2604.8	2606.4	2607.1	2607.5
14.5°	2585.9	2584.4	2585.9	2587.5	2587.9	2588.3
15°	2567.5	2565.9	2567.5	2568.2	2569.0	2569.0
15.5°	2549.0	2548.2	2549.0	2549.7	2549.0	2549.0
16°	2530.9	2530.1	2530.9	2531.2	2530.1	2529.7
16.5°	2512.7	2512.4	2512.7	2512.7	2511.2	2510.4
17°	2494.2	2494.6	2494.2	2494.6	2493.1	2492.3
17.5°	2476.1	2475.8	2476.1	2476.5	2475.4	2474.6
18°	2457.6	2456.9	2457.6	2458.4	2457.6	2457.3
18.5°	2438.0	2436.8	2438.0	2438.8	2438.8	2438.8
19°	2416.8	2415.7	2416.8	2418.0	2418.7	2419.9
19.5°	2394.5	2393.3	2394.5	2395.2	2397.5	2399.1
20°	2370.6	2367.9	2370.6	2370.2	2374.4	2376.4
20.5°	2344.8	2341.7	2344.8	2343.2	2348.2	2351.3
21°	2316.6	2312.8	2316.6	2314.7	2320.5	2325.1

TEST NUMBER: P776536

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2220.3	2218.4	2220.3	2220.7	2224.6	2229.2
23°	2185.3	2184.5	2185.3	2188.0	2188.7	2192.6
23.5°	2149.0	2151.0	2149.0	2153.7	2151.7	2155.2
24°	2112.1	2115.5	2112.1	2118.2	2113.6	2116.3
24.5°	2074.7	2079.3	2074.7	2080.9	2075.1	2076.2
25°	2037.3	2040.8	2037.3	2041.9	2035.0	2034.2
25.5°	1999.9	2000.7	1999.9	2001.9	1995.7	1990.7
26°	1961.0	1958.0	1961.0	1960.6	1954.9	1946.0
26.5°	1920.6	1913.6	1920.6	1917.9	1913.3	1900.2
27°	1879.0	1868.6	1879.0	1874.7	1870.1	1855.5
27.5°	1836.2	1822.7	1836.2	1830.8	1825.4	1811.5
28°	1791.5	1776.9	1791.5	1786.1	1780.7	1767.6
28.5°	1746.1	1732.6	1746.1	1741.4	1735.3	1724.9
29°	1699.8	1690.6	1699.8	1696.7	1689.4	1682.5
29.5°	1653.6	1649.3	1653.6	1652.4	1644.3	1640.9
30°	1607.4	1607.7	1607.4	1607.0	1598.1	1599.3
30.5°	1562.7	1568.4	1562.7	1561.9	1553.4	1556.1
31°	1518.0	1526.8	1518.0	1516.4	1507.6	1513.3
31.5°	1473.7	1484.8	1473.7	1471.0	1463.6	1469.4
32°	1430.1	1441.7	1430.1	1425.9	1419.3	1424.7
32.5°	1387.0	1398.5	1387.0	1381.6	1377.0	1381.6
33°	1343.8	1354.6	1343.8	1336.1	1334.6	1338.0
33.5°	1300.7	1310.3	1300.7	1291.0	1292.2	1299.1
34°	1258.3	1268.3	1258.3	1246.4	1249.8	1257.1
34.5°	1215.5	1226.7	1215.5	1202.8	1207.8	1215.5
35°	1174.3	1186.3	1174.3	1161.6	1167.0	1173.5
35.5°	1133.5	1146.6	1133.5	1120.8	1126.5	1132.7
36°	1094.2	1107.7	1094.2	1081.1	1086.1	1092.6
36.5°	1055.3	1068.0	1055.3	1042.5	1047.2	1052.9
37°	1017.5	1028.7	1017.5	1004.8	1008.6	1012.9
37.5°	981.3	989.4	981.3	968.6	971.3	974.0
38°	945.8	950.5	945.8	933.9	935.1	935.4
38.5°	911.2	913.1	911.2	900.8	900.0	899.2
39°	877.6	877.3	877.6	867.6	866.1	864.2
39.5°	844.5	843.4	844.5	836.0	833.3	829.9
40°	812.5	811.0	812.5	805.6	801.0	797.1
40.5°	781.3	780.9	781.3	776.3	770.2	766.3
41°	752.1	753.2	752.1	748.6	740.5	736.6
41.5°	723.9	727.4	723.9	722.0	712.8	708.5
42°	697.7	702.4	697.7	696.6	686.6	682.3
42.5°	673.1	678.1	673.1	672.7	661.9	657.7
43°	650.0	654.6	650.0	649.2	638.8	634.2
43.5°	627.6	631.8	627.6	627.2	617.2	612.6



TEST NUMBER: P776536

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	569.0	571.0	569.0	567.1	561.0	557.1
45.5°	551.7	553.3	551.7	549.8	544.0	540.9
46°	535.9	536.7	535.9	533.2	528.2	525.5
46.5°	520.5	521.3	520.5	517.4	513.6	511.3
47°	506.2	507.4	506.2	503.2	499.3	497.8
47.5°	493.1	494.7	493.1	489.7	486.2	485.1
48°	481.2	482.7	481.2	478.1	474.7	473.1
48.5°	470.0	471.2	470.0	466.9	464.3	463.5
49°	459.2	460.4	459.2	456.9	454.6	454.2
49.5°	449.2	449.6	449.2	447.3	445.8	445.4
50°	439.2	439.6	439.2	437.7	436.5	436.1
50.5°	429.6	429.6	429.6	428.0	427.3	426.9
51°	419.9	419.9	419.9	418.4	417.2	416.5
51.5°	410.3	410.7	410.3	408.4	406.8	406.5
52°	400.3	400.7	400.3	398.4	396.8	396.1
52.5°	389.9	390.7	389.9	388.4	386.4	385.7
53°	379.9	380.6	379.9	378.3	376.8	376.0
53.5°	370.2	371.0	370.2	368.3	366.8	366.0
54°	360.2	361.0	360.2	358.7	357.1	356.8
54.5°	351.0	351.8	351.0	349.4	347.9	347.5
55°	341.7	342.1	341.7	340.6	339.0	338.3
55.5°	332.9	333.3	332.9	331.7	330.2	329.4
56°	324.0	324.4	324.0	322.9	321.7	320.9
56.5°	315.5	315.9	315.5	314.4	313.2	312.5
57°	307.1	307.4	307.1	305.9	304.8	304.0
57.5°	298.6	299.4	298.6	297.8	296.7	295.5
58°	290.9	291.3	290.9	289.7	288.6	288.2
58.5°	282.8	283.2	282.8	282.0	280.9	280.5
59°	274.7	275.5	274.7	273.9	273.2	272.8
59.5°	267.4	267.8	267.4	266.2	265.5	265.1
60°	259.7	260.1	259.7	258.9	258.1	257.7
60.5°	252.4	252.7	252.4	251.6	250.8	250.4
61°	245.4	245.8	245.4	244.6	243.9	243.5
61.5°	238.5	238.9	238.5	237.7	236.9	236.6
62°	231.5	231.5	231.5	230.8	230.0	230.0
62.5°	224.6	225.0	224.6	223.8	223.5	223.1
63°	218.1	218.1	218.1	217.3	216.9	216.5
63.5°	211.5	211.9	211.5	210.7	210.4	210.0
64°	205.0	205.3	205.0	204.6	204.2	203.8
64.5°	198.8	199.2	198.8	198.4	198.0	197.6
65°	192.6	193.0	192.6	192.3	191.9	191.5
65.5°	186.9	186.9	186.9	186.1	185.7	185.7
66°	180.7	181.1	180.7	180.3	179.9	179.5



TEST NUMBER: P776536

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	163.7	163.7	163.7	163.4	163.0	162.6
68°	158.3	158.3	158.3	158.0	157.6	157.2
68.5°	152.6	153.0	152.6	152.6	152.2	151.8
69°	147.6	147.6	147.6	146.8	146.8	146.8
69.5°	142.2	142.6	142.2	141.8	141.8	141.4
70°	137.2	137.5	137.2	136.8	137.2	136.8
70.5°	132.1	132.5	132.1	132.1	132.1	131.8
71°	127.1	127.5	127.1	127.1	127.1	127.1
71.5°	122.5	122.5	122.5	122.5	122.1	122.1
72°	117.9	117.9	117.9	117.5	117.5	117.5
72.5°	113.3	113.3	113.3	112.9	112.9	112.9
73°	108.6	108.6	108.6	108.3	108.3	108.3
73.5°	104.0	104.0	104.0	104.0	103.6	103.6
74°	99.8	99.8	99.8	99.4	99.4	99.4
74.5°	95.2	95.2	95.2	95.2	95.2	95.2
75°	90.9	90.9	90.9	90.9	90.9	90.9
75.5°	86.7	87.1	86.7	86.7	86.7	86.7
76°	82.8	82.8	82.8	82.4	82.4	82.8
76.5°	78.6	78.6	78.6	78.6	78.6	78.6
77°	74.7	74.7	74.7	74.7	74.7	74.7
77.5°	70.9	70.9	70.9	70.9	70.9	70.9
78°	67.0	67.0	67.0	67.0	67.0	67.0
78.5°	63.2	63.6	63.2	63.2	63.6	63.6
79°	59.7	59.7	59.7	59.7	59.7	59.7
79.5°	56.2	56.2	56.2	55.9	56.2	56.2
80°	52.4	52.4	52.4	52.4	52.8	52.8
80.5°	49.3	49.3	49.3	49.3	49.3	49.3
81°	45.8	45.8	45.8	45.8	45.8	45.8
81.5°	42.4	42.4	42.4	42.4	42.4	42.4
82°	39.3	39.3	39.3	39.3	39.3	39.3
82.5°	36.2	35.8	36.2	36.2	36.2	36.2
83°	32.7	32.7	32.7	33.1	33.1	33.1
83.5°	29.7	29.7	29.7	30.1	30.1	30.1
84°	27.0	27.0	27.0	27.0	27.0	27.0
84.5°	23.9	23.9	23.9	23.9	23.9	24.3
85°	21.2	21.2	21.2	21.2	21.2	21.2
85.5°	18.1	18.5	18.1	18.5	18.1	18.5
86°	15.4	15.4	15.4	15.4	15.4	15.4
86.5°	12.7	13.1	12.7	12.7	12.7	13.1
87°	10.0	10.4	10.0	10.4	10.4	10.4
87.5°	7.7	8.1	7.7	7.7	7.7	7.7
88°	5.8	5.8	5.8	5.4	5.4	5.0
88.5°	3.9	4.6	3.9	3.5	3.1	3.1



TEST NUMBER: P776536

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.8	1.2	0.8	0.4	0.0	0.0



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Cooper Lighting Solutions Photometric Lab
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Scaled Data Report





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

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Scaled Data Report





21.5°	2294.7	2290.8	2284.3	2286.2	2282.4	2286.2	2284.3	2290.8	2294.7	2290.8	2284.3
22°	2262.7	2258.8	2253.1	2253.8	2250.0	2253.8	2253.1	2258.8	2262.7	2258.8	2253.1



44°	592.5	597.2	606.0	606.8	610.7	606.8	606.0	597.2	592.5	597.2	606.0
44.5°	574.1	578.7	586.4	587.5	590.2	587.5	586.4	578.7	574.1	578.7	586.4



66.5°	173.8	174.1	174.5	174.9	175.3	174.9	174.5	174.1	173.8	174.1	174.5
67°	168.4	168.4	168.7	169.1	169.5	169.1	168.7	168.4	168.4	168.4	168.7



89°	1.2	1.5	2.3	2.7	3.1	2.7	2.3	1.5	1.2	1.5	2.3
89.5°	0.0	0.4	1.2	1.5	1.9	1.5	1.2	0.4	0.0	0.4	1.2

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21.5°	2286.2	2282.4	2286.2	2284.3	2290.8	2294.7
22°	2253.8	2250.0	2253.8	2253.1	2258.8	2262.7



44°	606.8	610.7	606.8	606.0	597.2	592.5
44.5°	587.5	590.2	587.5	586.4	578.7	574.1



66.5°	174.9	175.3	174.9	174.5	174.1	173.8
67°	169.1	169.5	169.1	168.7	168.4	168.4

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89°	2.7	3.1	2.7	2.3	1.5	1.2
89.5°	1.5	1.9	1.5	1.2	0.4	0.0

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(END OF REPORT)