

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P776282

Luminaire Tested: HCDJBL3040CSD-HCD42TRMW-4000lm-3500K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776282  
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: HCDJBS3040CSD-HCD42TRMW-4000lm-3500K  
Description: 4 INCH ROUND NARROW MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

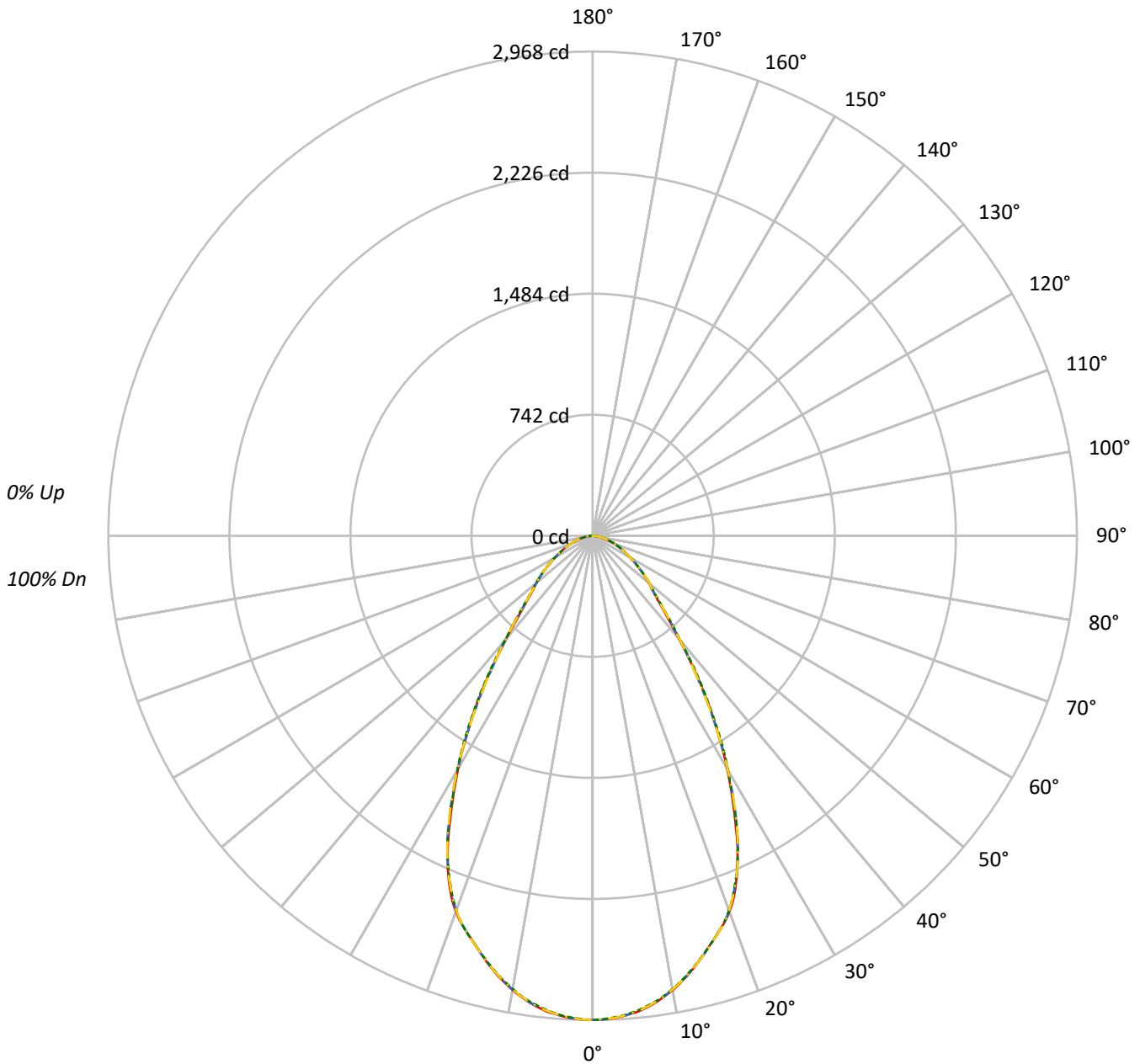
Lumens per Lamp: N/A  
Luminaire Lumens: 3832.4 lumens  
Efficiency: N/A  
Efficacy: 99.5 lumens/watt  
Spacing Criteria (0/90/45): 0.96 / 0.97 / 0.95  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20										
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	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°	373522	373522	373522	373522
5°	370881	370073	370881	370073
10°	361304	360486	361304	360486
15°	345319	344902	345319	344902
20°	328348	327169	328348	327169
25°	291425	292356	291425	292356
30°	239762	241040	239762	241040
35°	186005	188018	186005	188018
40°	135108	137457	135108	137457
45°	102302	104847	102302	104847
50°	88085	88790	88085	88790
55°	76575	77453	76575	77453
60°	66927	67531	66927	67531
65°	58813	59289	58813	59289
70°	51919	52214	51919	52214
75°	45610	45610	45610	45610
80°	39498	39208	39498	39208
85°	31623	31623	31623	31623

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 104847 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	276.5	7.2
10°-20°	744.5	19.4
20°-30°	953.4	24.9
30°-40°	755.5	19.7
40°-50°	462.6	12.1
50°-60°	316.2	8.3
60°-70°	198.0	5.2
70°-80°	100.3	2.6
80°-90°	25.3	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°	1974.5	51.5
0°-40°	2730.0	71.2
0°-60°	3508.8	91.6
0°-90°	3832.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3832.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2968	2968	2968	2968	2968	
5°	2936	2929	2936	2929	2936	277
15°	2650	2647	2650	2647	2650	745
25°	2099	2105	2099	2105	2099	951
35°	1211	1224	1211	1224	1211	755
45°	575	589	575	589	575	457
55°	349	353	349	353	349	314
65°	198	199	198	199	198	197
75°	94	94	94	94	94	100
85°	22	22	22	22	22	25
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°	2968.0	2968.0	2968.0	2968.0	2968.0	2968.0	2968.0	2968.0	2968.0	2968.0	2968.0
0.5°	2968.4	2968.0	2967.2	2966.8	2965.6	2966.8	2967.2	2968.0	2968.4	2968.0	2967.2
1°	2967.2	2966.8	2966.4	2966.0	2964.4	2966.0	2966.4	2966.8	2967.2	2966.8	2966.4
1.5°	2965.6	2964.8	2964.8	2964.0	2962.8	2964.0	2964.8	2964.8	2965.6	2964.8	2964.8
2°	2963.2	2962.8	2962.0	2961.6	2960.0	2961.6	2962.0	2962.8	2963.2	2962.8	2962.0
2.5°	2960.4	2959.6	2958.8	2958.4	2956.5	2958.4	2958.8	2959.6	2960.4	2959.6	2958.8
3°	2956.5	2955.7	2954.9	2954.1	2952.1	2954.1	2954.9	2955.7	2956.5	2955.7	2954.9
3.5°	2952.1	2951.3	2950.1	2949.3	2948.1	2949.3	2950.1	2951.3	2952.1	2951.3	2950.1
4°	2946.9	2946.5	2944.9	2944.1	2942.1	2944.1	2944.9	2946.5	2946.9	2946.5	2944.9
4.5°	2941.3	2940.6	2939.0	2938.2	2935.8	2938.2	2939.0	2940.6	2941.3	2940.6	2939.0
5°	2935.8	2934.6	2933.0	2932.2	2929.4	2932.2	2933.0	2934.6	2935.8	2934.6	2933.0
5.5°	2929.8	2927.0	2925.1	2924.3	2921.9	2924.3	2925.1	2927.0	2929.8	2927.0	2925.1
6°	2920.7	2919.1	2917.1	2915.9	2912.7	2915.9	2917.1	2919.1	2920.7	2919.1	2917.1
6.5°	2911.5	2910.3	2908.0	2906.8	2903.6	2906.8	2908.0	2910.3	2911.5	2910.3	2908.0
7°	2902.0	2900.4	2899.2	2897.2	2894.4	2897.2	2899.2	2900.4	2902.0	2900.4	2899.2
7.5°	2891.3	2889.7	2888.1	2887.3	2884.5	2887.3	2888.1	2889.7	2891.3	2889.7	2888.1
8°	2879.7	2878.5	2877.0	2875.8	2874.2	2875.8	2877.0	2878.5	2879.7	2878.5	2877.0
8.5°	2867.8	2866.2	2864.6	2863.4	2861.9	2863.4	2864.6	2866.2	2867.8	2866.2	2864.6
9°	2855.1	2853.9	2851.9	2850.7	2849.1	2850.7	2851.9	2853.9	2855.1	2853.9	2851.9
9.5°	2841.2	2840.4	2838.4	2837.2	2835.6	2837.2	2838.4	2840.4	2841.2	2840.4	2838.4
10°	2827.3	2826.1	2824.5	2822.9	2820.9	2822.9	2824.5	2826.1	2827.3	2826.1	2824.5
10.5°	2811.8	2811.0	2809.0	2807.8	2806.2	2807.8	2809.0	2811.0	2811.8	2811.0	2809.0
11°	2796.3	2795.5	2793.9	2792.3	2790.3	2792.3	2793.9	2795.5	2796.3	2795.5	2793.9
11.5°	2780.0	2779.2	2777.6	2776.0	2774.4	2776.0	2777.6	2779.2	2780.0	2779.2	2777.6
12°	2763.3	2762.5	2761.3	2759.3	2757.7	2759.3	2761.3	2762.5	2763.3	2762.5	2761.3
12.5°	2745.8	2745.0	2743.8	2741.8	2739.8	2741.8	2743.8	2745.0	2745.8	2745.0	2743.8
13°	2727.9	2727.1	2725.9	2724.3	2722.3	2724.3	2725.9	2727.1	2727.9	2727.1	2725.9
13.5°	2709.2	2708.4	2707.6	2706.0	2704.5	2706.0	2707.6	2708.4	2709.2	2708.4	2707.6
14°	2690.1	2689.7	2688.9	2687.4	2685.8	2687.4	2688.9	2689.7	2690.1	2689.7	2688.9
14.5°	2670.3	2669.9	2669.5	2667.9	2666.3	2667.9	2669.5	2669.9	2670.3	2669.9	2669.5
15°	2650.4	2650.4	2649.6	2648.8	2647.2	2648.8	2649.6	2650.4	2650.4	2650.4	2649.6
15.5°	2629.7	2629.7	2630.5	2629.7	2628.9	2629.7	2630.5	2629.7	2629.7	2629.7	2630.5
16°	2609.9	2610.2	2611.4	2611.0	2610.2	2611.0	2611.4	2610.2	2609.9	2610.2	2611.4
16.5°	2590.0	2590.8	2592.4	2592.4	2592.0	2592.4	2592.4	2590.8	2590.0	2590.8	2592.4
17°	2571.3	2572.1	2573.7	2573.3	2573.7	2573.3	2573.7	2572.1	2571.3	2572.1	2573.7
17.5°	2553.0	2553.8	2555.0	2554.6	2554.2	2554.6	2555.0	2553.8	2553.0	2553.8	2555.0
18°	2535.1	2535.5	2536.3	2535.5	2534.7	2535.5	2536.3	2535.5	2535.1	2535.5	2536.3
18.5°	2516.0	2516.0	2516.0	2515.3	2514.1	2515.3	2516.0	2516.0	2516.0	2516.0	2516.0
19°	2496.6	2495.4	2494.6	2493.4	2492.2	2493.4	2494.6	2495.4	2496.6	2495.4	2494.6
19.5°	2475.1	2473.5	2471.1	2470.3	2469.1	2470.3	2471.1	2473.5	2475.1	2473.5	2471.1
20°	2451.7	2449.7	2445.3	2445.7	2442.9	2445.7	2445.3	2449.7	2451.7	2449.7	2445.3
20.5°	2425.8	2422.6	2417.5	2419.1	2415.9	2419.1	2417.5	2422.6	2425.8	2422.6	2417.5
21°	2398.8	2394.0	2388.1	2390.0	2386.1	2390.0	2388.1	2394.0	2398.8	2394.0	2388.1



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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°	2299.8	2295.0	2291.1	2290.7	2288.7	2290.7	2291.1	2295.0	2299.8	2295.0	2291.1
23°	2262.1	2258.1	2257.3	2254.5	2253.7	2254.5	2257.3	2258.1	2262.1	2258.1	2257.3
23.5°	2223.5	2219.9	2221.9	2217.1	2219.1	2217.1	2221.9	2219.9	2223.5	2219.9	2221.9
24°	2183.4	2180.6	2185.3	2179.0	2182.6	2179.0	2185.3	2180.6	2183.4	2180.6	2185.3
24.5°	2142.0	2140.8	2146.8	2140.4	2145.2	2140.4	2146.8	2140.8	2142.0	2140.8	2146.8
25°	2098.7	2099.5	2106.6	2101.9	2105.4	2101.9	2106.6	2099.5	2098.7	2099.5	2106.6
25.5°	2053.8	2058.9	2065.3	2063.3	2064.1	2063.3	2065.3	2058.9	2053.8	2058.9	2065.3
26°	2007.7	2016.8	2022.8	2023.2	2020.0	2023.2	2022.8	2016.8	2007.7	2016.8	2022.8
26.5°	1960.4	1973.9	1978.7	1981.4	1974.3	1981.4	1978.7	1973.9	1960.4	1973.9	1978.7
27°	1914.3	1929.4	1934.1	1938.5	1927.8	1938.5	1934.1	1929.4	1914.3	1929.4	1934.1
27.5°	1868.9	1883.3	1888.8	1894.4	1880.5	1894.4	1888.8	1883.3	1868.9	1883.3	1888.8
28°	1823.6	1837.2	1842.7	1848.3	1833.2	1848.3	1842.7	1837.2	1823.6	1837.2	1842.7
28.5°	1779.5	1790.2	1796.6	1801.4	1787.5	1801.4	1796.6	1790.2	1779.5	1790.2	1796.6
29°	1735.8	1742.9	1750.5	1753.7	1744.1	1753.7	1750.5	1742.9	1735.8	1742.9	1750.5
29.5°	1692.9	1696.4	1704.8	1706.0	1701.6	1706.0	1704.8	1696.4	1692.9	1696.4	1704.8
30°	1649.9	1648.7	1657.9	1658.3	1658.7	1658.3	1657.9	1648.7	1649.9	1648.7	1657.9
30.5°	1605.4	1602.6	1611.4	1612.2	1618.1	1612.2	1611.4	1602.6	1605.4	1602.6	1611.4
31°	1561.3	1555.3	1564.5	1566.1	1575.2	1566.1	1564.5	1555.3	1561.3	1555.3	1564.5
31.5°	1516.0	1510.0	1517.6	1520.4	1531.9	1520.4	1517.6	1510.0	1516.0	1510.0	1517.6
32°	1469.9	1464.3	1471.1	1475.4	1487.4	1475.4	1471.1	1464.3	1469.9	1464.3	1471.1
32.5°	1425.4	1420.6	1425.4	1430.9	1442.9	1430.9	1425.4	1420.6	1425.4	1420.6	1425.4
33°	1380.4	1376.9	1378.5	1386.4	1397.5	1386.4	1378.5	1376.9	1380.4	1376.9	1378.5
33.5°	1340.3	1333.1	1332.0	1341.9	1351.8	1341.9	1332.0	1333.1	1340.3	1333.1	1332.0
34°	1297.0	1289.4	1285.8	1298.2	1308.5	1298.2	1285.8	1289.4	1297.0	1289.4	1285.8
34.5°	1254.0	1246.1	1240.9	1254.0	1265.6	1254.0	1240.9	1246.1	1254.0	1246.1	1240.9
35°	1210.7	1204.0	1198.4	1211.5	1223.8	1211.5	1198.4	1204.0	1210.7	1204.0	1198.4
35.5°	1168.6	1162.2	1156.3	1169.4	1182.9	1169.4	1156.3	1162.2	1168.6	1162.2	1156.3
36°	1127.3	1120.5	1115.3	1128.8	1142.8	1128.8	1115.3	1120.5	1127.3	1120.5	1115.3
36.5°	1086.3	1080.3	1075.6	1088.7	1101.8	1088.7	1075.6	1080.3	1086.3	1080.3	1075.6
37°	1045.0	1040.6	1036.6	1049.7	1061.3	1049.7	1036.6	1040.6	1045.0	1040.6	1036.6
37.5°	1004.8	1002.0	999.3	1012.4	1020.7	1012.4	999.3	1002.0	1004.8	1002.0	999.3
38°	965.1	964.7	963.5	975.8	980.6	975.8	963.5	964.7	965.1	964.7	963.5
38.5°	927.7	928.5	929.3	940.0	942.0	940.0	929.3	928.5	927.7	928.5	929.3
39°	891.5	893.5	895.1	905.5	905.1	905.5	895.1	893.5	891.5	893.5	895.1
39.5°	856.2	859.7	862.5	871.3	870.1	871.3	862.5	859.7	856.2	859.7	862.5
40°	822.4	826.4	831.1	838.3	836.7	838.3	831.1	826.4	822.4	826.4	831.1
40.5°	790.6	794.6	800.9	806.1	805.7	806.1	800.9	794.6	790.6	794.6	800.9
41°	760.0	764.0	772.3	775.9	777.1	775.9	772.3	764.0	760.0	764.0	772.3
41.5°	731.0	735.3	744.9	746.9	750.4	746.9	744.9	735.3	731.0	735.3	744.9
42°	703.9	708.3	718.6	719.8	724.6	719.8	718.6	708.3	703.9	708.3	718.6
42.5°	678.5	682.9	694.0	694.4	699.6	694.4	694.0	682.9	678.5	682.9	694.0
43°	654.3	659.0	669.8	670.5	675.3	670.5	669.8	659.0	654.3	659.0	669.8
43.5°	632.0	636.8	647.1	647.5	651.9	647.5	647.1	636.8	632.0	636.8	647.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	574.8	578.7	585.1	587.1	589.1	587.1	585.1	578.7	574.8	578.7	585.1
45.5°	558.1	561.2	567.2	569.2	570.8	569.2	567.2	561.2	558.1	561.2	567.2
46°	542.2	544.9	550.1	552.9	553.7	552.9	550.1	544.9	542.2	544.9	550.1
46.5°	527.5	529.8	533.8	537.0	537.8	537.0	533.8	529.8	527.5	529.8	533.8
47°	513.5	515.1	519.1	522.3	523.5	522.3	519.1	515.1	513.5	515.1	519.1
47.5°	500.4	501.6	505.2	508.8	510.4	508.8	505.2	501.6	500.4	501.6	505.2
48°	488.1	489.7	493.3	496.5	498.0	496.5	493.3	489.7	488.1	489.7	493.3
48.5°	478.2	479.0	481.7	484.9	486.1	484.9	481.7	479.0	478.2	479.0	481.7
49°	468.6	469.0	471.4	473.8	475.0	473.8	471.4	469.0	468.6	469.0	471.4
49.5°	459.5	459.9	461.5	463.5	463.9	463.5	461.5	459.9	459.5	459.9	461.5
50°	449.9	450.3	451.5	453.1	453.5	453.1	451.5	450.3	449.9	450.3	451.5
50.5°	440.4	440.8	441.6	443.2	443.2	443.2	441.6	440.8	440.4	440.8	441.6
51°	429.7	430.5	431.7	433.3	433.3	433.3	431.7	430.5	429.7	430.5	431.7
51.5°	419.3	419.7	421.3	423.3	423.7	423.3	421.3	419.7	419.3	419.7	421.3
52°	408.6	409.4	411.0	413.0	413.4	413.0	411.0	409.4	408.6	409.4	411.0
52.5°	397.9	398.7	400.7	402.2	403.0	402.2	400.7	398.7	397.9	398.7	400.7
53°	387.9	388.7	390.3	391.9	392.7	391.9	390.3	388.7	387.9	388.7	390.3
53.5°	377.6	378.4	380.0	382.0	382.8	382.0	380.0	378.4	377.6	378.4	380.0
54°	368.1	368.5	370.1	371.6	372.4	371.6	370.1	368.5	368.1	368.5	370.1
54.5°	358.5	358.9	360.5	362.1	362.9	362.1	360.5	358.9	358.5	358.9	360.5
55°	349.0	349.8	351.4	352.6	353.0	352.6	351.4	349.8	349.0	349.8	351.4
55.5°	339.8	340.6	342.2	343.4	343.8	343.4	342.2	340.6	339.8	340.6	342.2
56°	331.1	331.9	333.1	334.3	334.7	334.3	333.1	331.9	331.1	331.9	333.1
56.5°	322.4	323.2	324.3	325.5	325.9	325.5	324.3	323.2	322.4	323.2	324.3
57°	313.6	314.4	315.6	316.8	317.2	316.8	315.6	314.4	313.6	314.4	315.6
57.5°	304.9	306.1	307.3	308.0	308.8	308.0	307.3	306.1	304.9	306.1	307.3
58°	297.3	297.7	298.9	300.1	300.5	300.1	298.9	297.7	297.3	297.7	298.9
58.5°	289.4	289.8	291.0	291.8	292.1	291.8	291.0	289.8	289.4	289.8	291.0
59°	281.4	281.8	282.6	283.4	284.2	283.4	282.6	281.8	281.4	281.8	282.6
59.5°	273.5	273.9	274.7	275.9	276.2	275.9	274.7	273.9	273.5	273.9	274.7
60°	265.9	266.3	267.1	267.9	268.3	267.9	267.1	266.3	265.9	266.3	267.1
60.5°	258.4	258.8	259.6	260.3	260.7	260.3	259.6	258.8	258.4	258.8	259.6
61°	251.2	251.6	252.4	253.2	253.6	253.2	252.4	251.6	251.2	251.6	252.4
61.5°	244.1	244.4	245.2	246.0	246.4	246.0	245.2	244.4	244.1	244.4	245.2
62°	237.3	237.3	238.1	238.9	238.9	238.9	238.1	237.3	237.3	237.3	238.1
62.5°	230.1	230.5	230.9	231.7	232.1	231.7	230.9	230.5	230.1	230.5	230.9
63°	223.4	223.8	224.2	225.0	225.0	225.0	224.2	223.8	223.4	223.8	224.2
63.5°	216.6	217.0	217.4	218.2	218.6	218.2	217.4	217.0	216.6	217.0	217.4
64°	210.3	210.7	211.1	211.5	211.9	211.5	211.1	210.7	210.3	210.7	211.1
64.5°	203.9	204.3	204.7	205.1	205.5	205.1	204.7	204.3	203.9	204.3	204.7
65°	197.5	197.9	198.3	198.7	199.1	198.7	198.3	197.9	197.5	197.9	198.3
65.5°	191.6	191.6	192.0	192.8	192.8	192.8	192.0	191.6	191.6	191.6	192.0
66°	185.2	185.6	186.0	186.4	186.8	186.4	186.0	185.6	185.2	185.6	186.0





TEST NUMBER: P776282

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	167.7	168.1	168.5	168.9	168.9	168.9	168.5	168.1	167.7	168.1	168.5
68°	162.2	162.6	163.0	163.4	163.4	163.4	163.0	162.6	162.2	162.6	163.0
68.5°	156.6	157.0	157.4	157.4	157.8	157.4	157.4	157.0	156.6	157.0	157.4
69°	151.4	151.4	151.4	152.2	152.2	152.2	151.4	151.4	151.4	151.4	151.4
69.5°	145.9	146.3	146.3	146.7	147.1	146.7	146.3	146.3	145.9	146.3	146.3
70°	141.1	141.5	141.1	141.5	141.9	141.5	141.1	141.5	141.1	141.5	141.1
70.5°	135.9	136.3	136.3	136.3	136.7	136.3	136.3	136.3	135.9	136.3	136.3
71°	131.2	131.2	131.2	131.2	131.6	131.2	131.2	131.2	131.2	131.2	131.2
71.5°	126.0	126.0	126.4	126.4	126.4	126.4	126.4	126.0	126.0	126.0	126.4
72°	121.2	121.2	121.2	121.6	121.6	121.6	121.2	121.2	121.2	121.2	121.2
72.5°	116.5	116.5	116.5	116.9	116.9	116.9	116.5	116.5	116.5	116.5	116.5
73°	111.7	111.7	111.7	112.1	112.1	112.1	111.7	111.7	111.7	111.7	111.7
73.5°	106.9	106.9	107.3	107.3	107.3	107.3	107.3	106.9	106.9	106.9	107.3
74°	102.5	102.5	102.5	102.9	102.9	102.9	102.5	102.5	102.5	102.5	102.5
74.5°	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2
75°	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8
75.5°	89.4	89.4	89.4	89.4	89.8	89.4	89.4	89.4	89.4	89.4	89.4
76°	85.5	85.1	85.1	85.5	85.5	85.5	85.1	85.1	85.5	85.1	85.1
76.5°	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1
77°	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1
77.5°	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1
78°	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2
78.5°	65.6	65.6	65.2	65.2	65.6	65.2	65.2	65.6	65.6	65.6	65.2
79°	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6
79.5°	58.0	58.0	57.6	58.0	58.0	58.0	57.6	58.0	58.0	58.0	57.6
80°	54.5	54.5	54.1	54.1	54.1	54.1	54.1	54.5	54.5	54.5	54.1
80.5°	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9
81°	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3
81.5°	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7
82°	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
82.5°	37.4	37.4	37.4	37.4	37.0	37.4	37.4	37.4	37.4	37.4	37.4
83°	34.2	34.2	34.2	33.8	33.8	33.8	34.2	34.2	34.2	34.2	34.2
83.5°	31.0	31.0	31.0	30.6	30.6	30.6	31.0	31.0	31.0	31.0	31.0
84°	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8
84.5°	25.0	24.6	24.6	24.6	24.6	24.6	24.6	24.6	25.0	24.6	24.6
85°	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
85.5°	19.1	18.7	19.1	18.7	19.1	18.7	19.1	18.7	19.1	18.7	19.1
86°	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
86.5°	13.5	13.1	13.1	13.1	13.5	13.1	13.1	13.1	13.5	13.1	13.1
87°	10.7	10.7	10.7	10.3	10.7	10.3	10.7	10.7	10.7	10.7	10.7
87.5°	7.9	7.9	7.9	7.9	8.3	7.9	7.9	7.9	7.9	7.9	7.9
88°	5.2	5.6	5.6	6.0	6.0	6.0	5.6	5.6	5.2	5.6	5.6
88.5°	3.2	3.2	3.6	4.0	4.8	4.0	3.6	3.2	3.2	3.2	3.6



TEST NUMBER: P776282

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3500K

**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: P776282

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2968.0	2968.0	2968.0	2968.0	2968.0	2968.0
0.5°	2966.8	2965.6	2966.8	2967.2	2968.0	2968.4
1°	2966.0	2964.4	2966.0	2966.4	2966.8	2967.2
1.5°	2964.0	2962.8	2964.0	2964.8	2964.8	2965.6
2°	2961.6	2960.0	2961.6	2962.0	2962.8	2963.2
2.5°	2958.4	2956.5	2958.4	2958.8	2959.6	2960.4
3°	2954.1	2952.1	2954.1	2954.9	2955.7	2956.5
3.5°	2949.3	2948.1	2949.3	2950.1	2951.3	2952.1
4°	2944.1	2942.1	2944.1	2944.9	2946.5	2946.9
4.5°	2938.2	2935.8	2938.2	2939.0	2940.6	2941.3
5°	2932.2	2929.4	2932.2	2933.0	2934.6	2935.8
5.5°	2924.3	2921.9	2924.3	2925.1	2927.0	2929.8
6°	2915.9	2912.7	2915.9	2917.1	2919.1	2920.7
6.5°	2906.8	2903.6	2906.8	2908.0	2910.3	2911.5
7°	2897.2	2894.4	2897.2	2899.2	2900.4	2902.0
7.5°	2887.3	2884.5	2887.3	2888.1	2889.7	2891.3
8°	2875.8	2874.2	2875.8	2877.0	2878.5	2879.7
8.5°	2863.4	2861.9	2863.4	2864.6	2866.2	2867.8
9°	2850.7	2849.1	2850.7	2851.9	2853.9	2855.1
9.5°	2837.2	2835.6	2837.2	2838.4	2840.4	2841.2
10°	2822.9	2820.9	2822.9	2824.5	2826.1	2827.3
10.5°	2807.8	2806.2	2807.8	2809.0	2811.0	2811.8
11°	2792.3	2790.3	2792.3	2793.9	2795.5	2796.3
11.5°	2776.0	2774.4	2776.0	2777.6	2779.2	2780.0
12°	2759.3	2757.7	2759.3	2761.3	2762.5	2763.3
12.5°	2741.8	2739.8	2741.8	2743.8	2745.0	2745.8
13°	2724.3	2722.3	2724.3	2725.9	2727.1	2727.9
13.5°	2706.0	2704.5	2706.0	2707.6	2708.4	2709.2
14°	2687.4	2685.8	2687.4	2688.9	2689.7	2690.1
14.5°	2667.9	2666.3	2667.9	2669.5	2669.9	2670.3
15°	2648.8	2647.2	2648.8	2649.6	2650.4	2650.4
15.5°	2629.7	2628.9	2629.7	2630.5	2629.7	2629.7
16°	2611.0	2610.2	2611.0	2611.4	2610.2	2609.9
16.5°	2592.4	2592.0	2592.4	2592.4	2590.8	2590.0
17°	2573.3	2573.7	2573.3	2573.7	2572.1	2571.3
17.5°	2554.6	2554.2	2554.6	2555.0	2553.8	2553.0
18°	2535.5	2534.7	2535.5	2536.3	2535.5	2535.1
18.5°	2515.3	2514.1	2515.3	2516.0	2516.0	2516.0
19°	2493.4	2492.2	2493.4	2494.6	2495.4	2496.6
19.5°	2470.3	2469.1	2470.3	2471.1	2473.5	2475.1
20°	2445.7	2442.9	2445.7	2445.3	2449.7	2451.7
20.5°	2419.1	2415.9	2419.1	2417.5	2422.6	2425.8
21°	2390.0	2386.1	2390.0	2388.1	2394.0	2398.8



TEST NUMBER: P776282

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2290.7	2288.7	2290.7	2291.1	2295.0	2299.8
23°	2254.5	2253.7	2254.5	2257.3	2258.1	2262.1
23.5°	2217.1	2219.1	2217.1	2221.9	2219.9	2223.5
24°	2179.0	2182.6	2179.0	2185.3	2180.6	2183.4
24.5°	2140.4	2145.2	2140.4	2146.8	2140.8	2142.0
25°	2101.9	2105.4	2101.9	2106.6	2099.5	2098.7
25.5°	2063.3	2064.1	2063.3	2065.3	2058.9	2053.8
26°	2023.2	2020.0	2023.2	2022.8	2016.8	2007.7
26.5°	1981.4	1974.3	1981.4	1978.7	1973.9	1960.4
27°	1938.5	1927.8	1938.5	1934.1	1929.4	1914.3
27.5°	1894.4	1880.5	1894.4	1888.8	1883.3	1868.9
28°	1848.3	1833.2	1848.3	1842.7	1837.2	1823.6
28.5°	1801.4	1787.5	1801.4	1796.6	1790.2	1779.5
29°	1753.7	1744.1	1753.7	1750.5	1742.9	1735.8
29.5°	1706.0	1701.6	1706.0	1704.8	1696.4	1692.9
30°	1658.3	1658.7	1658.3	1657.9	1648.7	1649.9
30.5°	1612.2	1618.1	1612.2	1611.4	1602.6	1605.4
31°	1566.1	1575.2	1566.1	1564.5	1555.3	1561.3
31.5°	1520.4	1531.9	1520.4	1517.6	1510.0	1516.0
32°	1475.4	1487.4	1475.4	1471.1	1464.3	1469.9
32.5°	1430.9	1442.9	1430.9	1425.4	1420.6	1425.4
33°	1386.4	1397.5	1386.4	1378.5	1376.9	1380.4
33.5°	1341.9	1351.8	1341.9	1332.0	1333.1	1340.3
34°	1298.2	1308.5	1298.2	1285.8	1289.4	1297.0
34.5°	1254.0	1265.6	1254.0	1240.9	1246.1	1254.0
35°	1211.5	1223.8	1211.5	1198.4	1204.0	1210.7
35.5°	1169.4	1182.9	1169.4	1156.3	1162.2	1168.6
36°	1128.8	1142.8	1128.8	1115.3	1120.5	1127.3
36.5°	1088.7	1101.8	1088.7	1075.6	1080.3	1086.3
37°	1049.7	1061.3	1049.7	1036.6	1040.6	1045.0
37.5°	1012.4	1020.7	1012.4	999.3	1002.0	1004.8
38°	975.8	980.6	975.8	963.5	964.7	965.1
38.5°	940.0	942.0	940.0	929.3	928.5	927.7
39°	905.5	905.1	905.5	895.1	893.5	891.5
39.5°	871.3	870.1	871.3	862.5	859.7	856.2
40°	838.3	836.7	838.3	831.1	826.4	822.4
40.5°	806.1	805.7	806.1	800.9	794.6	790.6
41°	775.9	777.1	775.9	772.3	764.0	760.0
41.5°	746.9	750.4	746.9	744.9	735.3	731.0
42°	719.8	724.6	719.8	718.6	708.3	703.9
42.5°	694.4	699.6	694.4	694.0	682.9	678.5
43°	670.5	675.3	670.5	669.8	659.0	654.3
43.5°	647.5	651.9	647.5	647.1	636.8	632.0

TEST NUMBER: P776282

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	587.1	589.1	587.1	585.1	578.7	574.8
45.5°	569.2	570.8	569.2	567.2	561.2	558.1
46°	552.9	553.7	552.9	550.1	544.9	542.2
46.5°	537.0	537.8	537.0	533.8	529.8	527.5
47°	522.3	523.5	522.3	519.1	515.1	513.5
47.5°	508.8	510.4	508.8	505.2	501.6	500.4
48°	496.5	498.0	496.5	493.3	489.7	488.1
48.5°	484.9	486.1	484.9	481.7	479.0	478.2
49°	473.8	475.0	473.8	471.4	469.0	468.6
49.5°	463.5	463.9	463.5	461.5	459.9	459.5
50°	453.1	453.5	453.1	451.5	450.3	449.9
50.5°	443.2	443.2	443.2	441.6	440.8	440.4
51°	433.3	433.3	433.3	431.7	430.5	429.7
51.5°	423.3	423.7	423.3	421.3	419.7	419.3
52°	413.0	413.4	413.0	411.0	409.4	408.6
52.5°	402.2	403.0	402.2	400.7	398.7	397.9
53°	391.9	392.7	391.9	390.3	388.7	387.9
53.5°	382.0	382.8	382.0	380.0	378.4	377.6
54°	371.6	372.4	371.6	370.1	368.5	368.1
54.5°	362.1	362.9	362.1	360.5	358.9	358.5
55°	352.6	353.0	352.6	351.4	349.8	349.0
55.5°	343.4	343.8	343.4	342.2	340.6	339.8
56°	334.3	334.7	334.3	333.1	331.9	331.1
56.5°	325.5	325.9	325.5	324.3	323.2	322.4
57°	316.8	317.2	316.8	315.6	314.4	313.6
57.5°	308.0	308.8	308.0	307.3	306.1	304.9
58°	300.1	300.5	300.1	298.9	297.7	297.3
58.5°	291.8	292.1	291.8	291.0	289.8	289.4
59°	283.4	284.2	283.4	282.6	281.8	281.4
59.5°	275.9	276.2	275.9	274.7	273.9	273.5
60°	267.9	268.3	267.9	267.1	266.3	265.9
60.5°	260.3	260.7	260.3	259.6	258.8	258.4
61°	253.2	253.6	253.2	252.4	251.6	251.2
61.5°	246.0	246.4	246.0	245.2	244.4	244.1
62°	238.9	238.9	238.9	238.1	237.3	237.3
62.5°	231.7	232.1	231.7	230.9	230.5	230.1
63°	225.0	225.0	225.0	224.2	223.8	223.4
63.5°	218.2	218.6	218.2	217.4	217.0	216.6
64°	211.5	211.9	211.5	211.1	210.7	210.3
64.5°	205.1	205.5	205.1	204.7	204.3	203.9
65°	198.7	199.1	198.7	198.3	197.9	197.5
65.5°	192.8	192.8	192.8	192.0	191.6	191.6
66°	186.4	186.8	186.4	186.0	185.6	185.2



TEST NUMBER: P776282

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	168.9	168.9	168.9	168.5	168.1	167.7
68°	163.4	163.4	163.4	163.0	162.6	162.2
68.5°	157.4	157.8	157.4	157.4	157.0	156.6
69°	152.2	152.2	152.2	151.4	151.4	151.4
69.5°	146.7	147.1	146.7	146.3	146.3	145.9
70°	141.5	141.9	141.5	141.1	141.5	141.1
70.5°	136.3	136.7	136.3	136.3	136.3	135.9
71°	131.2	131.6	131.2	131.2	131.2	131.2
71.5°	126.4	126.4	126.4	126.4	126.0	126.0
72°	121.6	121.6	121.6	121.2	121.2	121.2
72.5°	116.9	116.9	116.9	116.5	116.5	116.5
73°	112.1	112.1	112.1	111.7	111.7	111.7
73.5°	107.3	107.3	107.3	107.3	106.9	106.9
74°	102.9	102.9	102.9	102.5	102.5	102.5
74.5°	98.2	98.2	98.2	98.2	98.2	98.2
75°	93.8	93.8	93.8	93.8	93.8	93.8
75.5°	89.4	89.8	89.4	89.4	89.4	89.4
76°	85.5	85.5	85.5	85.1	85.1	85.5
76.5°	81.1	81.1	81.1	81.1	81.1	81.1
77°	77.1	77.1	77.1	77.1	77.1	77.1
77.5°	73.1	73.1	73.1	73.1	73.1	73.1
78°	69.2	69.2	69.2	69.2	69.2	69.2
78.5°	65.2	65.6	65.2	65.2	65.6	65.6
79°	61.6	61.6	61.6	61.6	61.6	61.6
79.5°	58.0	58.0	58.0	57.6	58.0	58.0
80°	54.1	54.1	54.1	54.1	54.5	54.5
80.5°	50.9	50.9	50.9	50.9	50.9	50.9
81°	47.3	47.3	47.3	47.3	47.3	47.3
81.5°	43.7	43.7	43.7	43.7	43.7	43.7
82°	40.5	40.5	40.5	40.5	40.5	40.5
82.5°	37.4	37.0	37.4	37.4	37.4	37.4
83°	33.8	33.8	33.8	34.2	34.2	34.2
83.5°	30.6	30.6	30.6	31.0	31.0	31.0
84°	27.8	27.8	27.8	27.8	27.8	27.8
84.5°	24.6	24.6	24.6	24.6	24.6	25.0
85°	21.9	21.9	21.9	21.9	21.9	21.9
85.5°	18.7	19.1	18.7	19.1	18.7	19.1
86°	15.9	15.9	15.9	15.9	15.9	15.9
86.5°	13.1	13.5	13.1	13.1	13.1	13.5
87°	10.3	10.7	10.3	10.7	10.7	10.7
87.5°	7.9	8.3	7.9	7.9	7.9	7.9
88°	6.0	6.0	6.0	5.6	5.6	5.2
88.5°	4.0	4.8	4.0	3.6	3.2	3.2



TEST NUMBER: P776282

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3500K

**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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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°	2367.4	2363.4	2356.7	2358.6	2354.7	2358.6	2356.7	2363.4	2367.4	2363.4	2356.7
22°	2334.4	2330.4	2324.5	2325.3	2321.3	2325.3	2324.5	2330.4	2334.4	2330.4	2324.5



44°	611.3	616.1	625.2	626.0	630.0	626.0	625.2	616.1	611.3	616.1	625.2
44.5°	592.2	597.0	605.0	606.2	608.9	606.2	605.0	597.0	592.2	597.0	605.0



66.5°	179.3	179.7	180.1	180.5	180.9	180.5	180.1	179.7	179.3	179.7	180.1
67°	173.7	173.7	174.1	174.5	174.9	174.5	174.1	173.7	173.7	173.7	174.1



89°	1.2	1.6	2.4	2.8	3.2	2.8	2.4	1.6	1.2	1.6	2.4
89.5°	0.0	0.4	1.2	1.6	2.0	1.6	1.2	0.4	0.0	0.4	1.2



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21.5°	2358.6	2354.7	2358.6	2356.7	2363.4	2367.4
22°	2325.3	2321.3	2325.3	2324.5	2330.4	2334.4

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44°	626.0	630.0	626.0	625.2	616.1	611.3
44.5°	606.2	608.9	606.2	605.0	597.0	592.2



66.5°	180.5	180.9	180.5	180.1	179.7	179.3
67°	174.5	174.9	174.5	174.1	173.7	173.7

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89°	2.8	3.2	2.8	2.4	1.6	1.2
89.5°	1.6	2.0	1.6	1.2	0.4	0.0

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Scaled Data Report



(END OF REPORT)