

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: P776281

Luminaire Tested: HCDJBL3040CSD-HCD42TRMW-4000lm-3000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776281  
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-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: 3774.9 lumens  
Efficiency: N/A  
Efficacy: 98.0 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

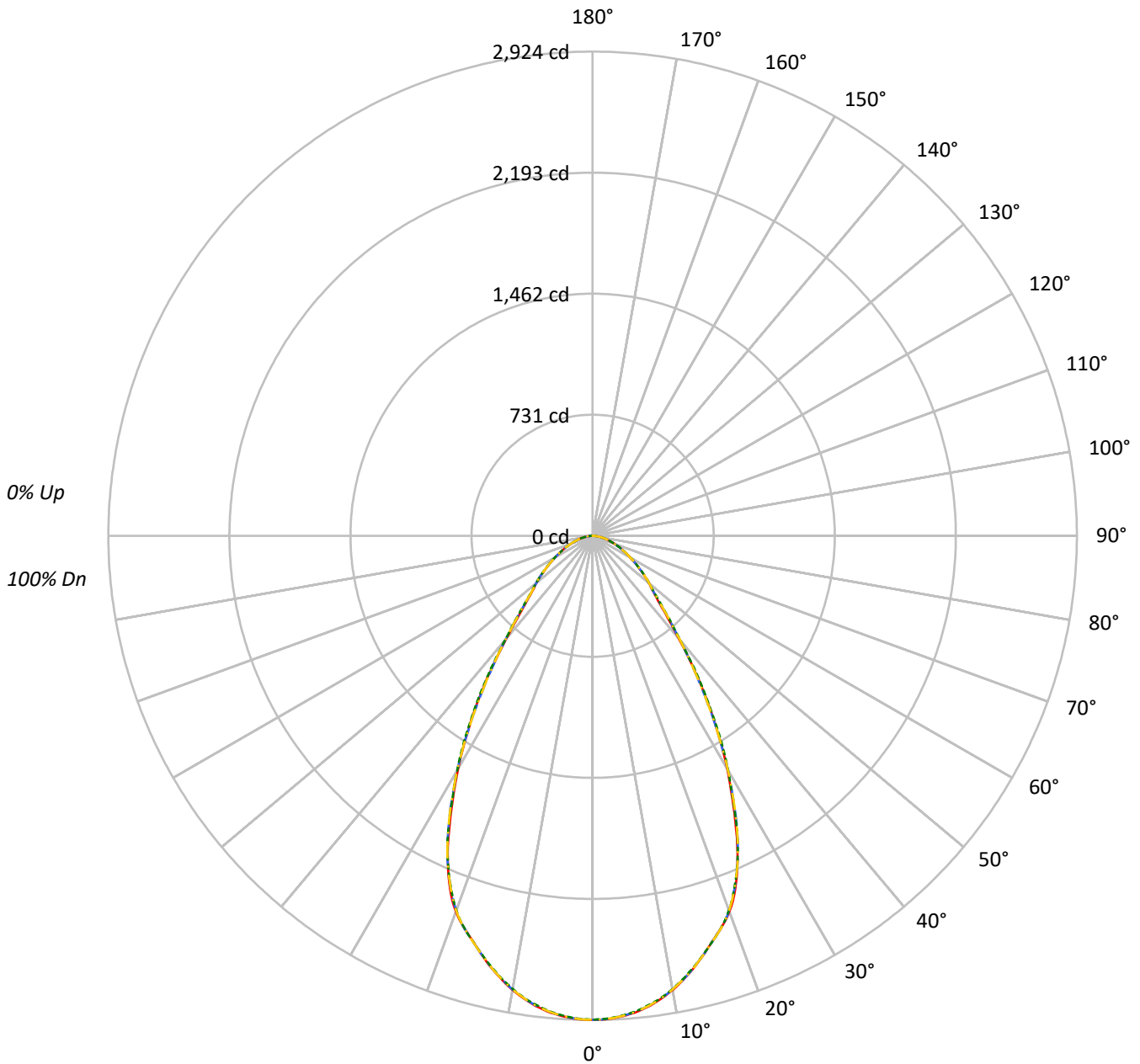
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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°	367909	367909	367909	367909
5°	365310	364514	365310	364514
10°	355873	355081	355873	355081
15°	340133	339729	340133	339729
20°	323406	322254	323406	322254
25°	287051	287968	287051	287968
30°	236172	237422	236172	237422
35°	183209	185206	183209	185206
40°	133071	135387	133071	135387
45°	100754	103263	100754	103263
50°	86773	87458	86773	87458
55°	75412	76290	75412	76290
60°	65920	66524	65920	66524
65°	57949	58396	57949	58396
70°	51146	51441	51146	51441
75°	44929	44929	44929	44929
80°	38846	38556	38846	38556
85°	31045	31045	31045	31045

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 103263 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	272.4	7.2
10°-20°	733.3	19.4
20°-30°	939.1	24.9
30°-40°	744.2	19.7
40°-50°	455.7	12.1
50°-60°	311.5	8.3
60°-70°	195.0	5.2
70°-80°	98.8	2.6
80°-90°	24.9	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°	1944.8	51.5
0°-40°	2689.0	71.2
0°-60°	3456.1	91.6
0°-90°	3774.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3774.9	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2923	2923	2923	2923	2923	
5°	2892	2885	2892	2885	2892	273
15°	2611	2608	2611	2608	2611	734
25°	2067	2074	2067	2074	2067	937
35°	1192	1206	1192	1206	1192	743
45°	566	580	566	580	566	450
55°	344	348	344	348	344	310
65°	195	196	195	196	195	194
75°	92	92	92	92	92	99
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°	2923.4	2923.4	2923.4	2923.4	2923.4	2923.4	2923.4	2923.4	2923.4	2923.4	2923.4
0.5°	2923.8	2923.4	2922.6	2922.2	2921.1	2922.2	2922.6	2923.4	2923.8	2923.4	2922.6
1°	2922.6	2922.2	2921.9	2921.5	2919.9	2921.5	2921.9	2922.2	2922.6	2922.2	2921.9
1.5°	2921.1	2920.3	2920.3	2919.5	2918.3	2919.5	2920.3	2920.3	2921.1	2920.3	2920.3
2°	2918.7	2918.3	2917.5	2917.2	2915.6	2917.2	2917.5	2918.3	2918.7	2918.3	2917.5
2.5°	2916.0	2915.2	2914.4	2914.0	2912.1	2914.0	2914.4	2915.2	2916.0	2915.2	2914.4
3°	2912.1	2911.3	2910.5	2909.7	2907.8	2909.7	2910.5	2911.3	2912.1	2911.3	2910.5
3.5°	2907.8	2907.0	2905.8	2905.0	2903.8	2905.0	2905.8	2907.0	2907.8	2907.0	2905.8
4°	2902.7	2902.3	2900.7	2899.9	2898.0	2899.9	2900.7	2902.3	2902.7	2902.3	2900.7
4.5°	2897.2	2896.4	2894.8	2894.1	2891.7	2894.1	2894.8	2896.4	2897.2	2896.4	2894.8
5°	2891.7	2890.5	2889.0	2888.2	2885.4	2888.2	2889.0	2890.5	2891.7	2890.5	2889.0
5.5°	2885.8	2883.1	2881.1	2880.3	2878.0	2880.3	2881.1	2883.1	2885.8	2883.1	2881.1
6°	2876.8	2875.3	2873.3	2872.1	2869.0	2872.1	2873.3	2875.3	2876.8	2875.3	2873.3
6.5°	2867.8	2866.6	2864.3	2863.1	2860.0	2863.1	2864.3	2866.6	2867.8	2866.6	2864.3
7°	2858.4	2856.9	2855.7	2853.7	2851.0	2853.7	2855.7	2856.9	2858.4	2856.9	2855.7
7.5°	2847.9	2846.3	2844.7	2843.9	2841.2	2843.9	2844.7	2846.3	2847.9	2846.3	2844.7
8°	2836.5	2835.3	2833.8	2832.6	2831.0	2832.6	2833.8	2835.3	2836.5	2835.3	2833.8
8.5°	2824.8	2823.2	2821.6	2820.4	2818.9	2820.4	2821.6	2823.2	2824.8	2823.2	2821.6
9°	2812.2	2811.1	2809.1	2807.9	2806.4	2807.9	2809.1	2811.1	2812.2	2811.1	2809.1
9.5°	2798.5	2797.7	2795.8	2794.6	2793.0	2794.6	2795.8	2797.7	2798.5	2797.7	2795.8
10°	2784.8	2783.6	2782.1	2780.5	2778.6	2780.5	2782.1	2783.6	2784.8	2783.6	2782.1
10.5°	2769.6	2768.8	2766.8	2765.6	2764.1	2765.6	2766.8	2768.8	2769.6	2768.8	2766.8
11°	2754.3	2753.5	2751.9	2750.4	2748.4	2750.4	2751.9	2753.5	2754.3	2753.5	2751.9
11.5°	2738.2	2737.4	2735.9	2734.3	2732.7	2734.3	2735.9	2737.4	2738.2	2737.4	2735.9
12°	2721.8	2721.0	2719.8	2717.9	2716.3	2717.9	2719.8	2721.0	2721.8	2721.0	2719.8
12.5°	2704.6	2703.8	2702.6	2700.6	2698.7	2700.6	2702.6	2703.8	2704.6	2703.8	2702.6
13°	2686.9	2686.2	2685.0	2683.4	2681.5	2683.4	2685.0	2686.2	2686.9	2686.2	2685.0
13.5°	2668.5	2667.8	2667.0	2665.4	2663.8	2665.4	2667.0	2667.8	2668.5	2667.8	2667.0
14°	2649.7	2649.4	2648.6	2647.0	2645.4	2647.0	2648.6	2649.4	2649.7	2649.4	2648.6
14.5°	2630.2	2629.8	2629.4	2627.8	2626.3	2627.8	2629.4	2629.8	2630.2	2629.8	2629.4
15°	2610.6	2610.6	2609.8	2609.0	2607.5	2609.0	2609.8	2610.6	2610.6	2610.6	2609.8
15.5°	2590.2	2590.2	2591.0	2590.2	2589.5	2590.2	2591.0	2590.2	2590.2	2590.2	2591.0
16°	2570.7	2571.1	2572.2	2571.8	2571.1	2571.8	2572.2	2571.1	2570.7	2571.1	2572.2
16.5°	2551.1	2551.9	2553.4	2553.4	2553.0	2553.4	2553.4	2551.9	2551.1	2551.9	2553.4
17°	2532.7	2533.5	2535.0	2534.6	2535.0	2534.6	2535.0	2533.5	2532.7	2533.5	2535.0
17.5°	2514.7	2515.5	2516.6	2516.2	2515.9	2516.2	2516.6	2515.5	2514.7	2515.5	2516.6
18°	2497.1	2497.5	2498.2	2497.5	2496.7	2497.5	2498.2	2497.5	2497.1	2497.5	2498.2
18.5°	2478.3	2478.3	2478.3	2477.5	2476.3	2477.5	2478.3	2478.3	2478.3	2478.3	2478.3
19°	2459.1	2457.9	2457.1	2456.0	2454.8	2456.0	2457.1	2457.9	2459.1	2457.9	2457.1
19.5°	2437.9	2436.4	2434.0	2433.2	2432.1	2433.2	2434.0	2436.4	2437.9	2436.4	2434.0
20°	2414.8	2412.9	2408.6	2409.0	2406.2	2409.0	2408.6	2412.9	2414.8	2412.9	2408.6
20.5°	2389.4	2386.3	2381.2	2382.7	2379.6	2382.7	2381.2	2386.3	2389.4	2386.3	2381.2
21°	2362.8	2358.1	2352.2	2354.2	2350.2	2354.2	2352.2	2358.1	2362.8	2358.1	2352.2



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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°	2265.3	2260.6	2256.7	2256.3	2254.3	2256.3	2256.7	2260.6	2265.3	2260.6	2256.7
23°	2228.1	2224.2	2223.4	2220.7	2219.9	2220.7	2223.4	2224.2	2228.1	2224.2	2223.4
23.5°	2190.1	2186.6	2188.5	2183.9	2185.8	2183.9	2188.5	2186.6	2190.1	2186.6	2188.5
24°	2150.6	2147.8	2152.5	2146.3	2149.8	2146.3	2152.5	2147.8	2150.6	2147.8	2152.5
24.5°	2109.9	2108.7	2114.6	2108.3	2113.0	2108.3	2114.6	2108.7	2109.9	2108.7	2114.6
25°	2067.2	2068.0	2075.0	2070.3	2073.8	2070.3	2075.0	2068.0	2067.2	2068.0	2075.0
25.5°	2022.9	2028.0	2034.3	2032.3	2033.1	2032.3	2034.3	2028.0	2022.9	2028.0	2034.3
26°	1977.5	1986.5	1992.4	1992.8	1989.7	1992.8	1992.4	1986.5	1977.5	1986.5	1992.4
26.5°	1930.9	1944.2	1948.9	1951.7	1944.6	1951.7	1948.9	1944.2	1930.9	1944.2	1948.9
27°	1885.5	1900.4	1905.1	1909.4	1898.8	1909.4	1905.1	1900.4	1885.5	1900.4	1905.1
27.5°	1840.9	1855.0	1860.5	1865.9	1852.2	1865.9	1860.5	1855.0	1840.9	1855.0	1860.5
28°	1796.3	1809.6	1815.0	1820.5	1805.7	1820.5	1815.0	1809.6	1796.3	1809.6	1815.0
28.5°	1752.8	1763.4	1769.6	1774.3	1760.6	1774.3	1769.6	1763.4	1752.8	1763.4	1769.6
29°	1709.7	1716.8	1724.2	1727.3	1718.0	1727.3	1724.2	1716.8	1709.7	1716.8	1724.2
29.5°	1667.4	1671.0	1679.2	1680.4	1676.1	1680.4	1679.2	1671.0	1667.4	1671.0	1679.2
30°	1625.2	1624.0	1633.0	1633.4	1633.8	1633.4	1633.0	1624.0	1625.2	1624.0	1633.0
30.5°	1581.3	1578.6	1587.2	1588.0	1593.8	1588.0	1587.2	1578.6	1581.3	1578.6	1587.2
31°	1537.9	1532.0	1541.0	1542.6	1551.6	1542.6	1541.0	1532.0	1537.9	1532.0	1541.0
31.5°	1493.2	1487.4	1494.8	1497.5	1508.9	1497.5	1494.8	1487.4	1493.2	1487.4	1494.8
32°	1447.8	1442.3	1449.0	1453.3	1465.0	1453.3	1449.0	1442.3	1447.8	1442.3	1449.0
32.5°	1404.0	1399.3	1404.0	1409.4	1421.2	1409.4	1404.0	1399.3	1404.0	1399.3	1404.0
33°	1359.7	1356.2	1357.8	1365.6	1376.6	1365.6	1357.8	1356.2	1359.7	1356.2	1357.8
33.5°	1320.2	1313.1	1312.0	1321.7	1331.5	1321.7	1312.0	1313.1	1320.2	1313.1	1312.0
34°	1277.5	1270.1	1266.5	1278.7	1288.9	1278.7	1266.5	1270.1	1277.5	1270.1	1266.5
34.5°	1235.2	1227.4	1222.3	1235.2	1246.6	1235.2	1222.3	1227.4	1235.2	1227.4	1222.3
35°	1192.5	1185.9	1180.4	1193.3	1205.5	1193.3	1180.4	1185.9	1192.5	1185.9	1180.4
35.5°	1151.0	1144.8	1138.9	1151.8	1165.1	1151.8	1138.9	1144.8	1151.0	1144.8	1138.9
36°	1110.3	1103.7	1098.6	1111.9	1125.6	1111.9	1098.6	1103.7	1110.3	1103.7	1098.6
36.5°	1070.0	1064.1	1059.4	1072.3	1085.3	1072.3	1059.4	1064.1	1070.0	1064.1	1059.4
37°	1029.3	1025.0	1021.1	1034.0	1045.3	1034.0	1021.1	1025.0	1029.3	1025.0	1021.1
37.5°	989.7	987.0	984.3	997.2	1005.4	997.2	984.3	987.0	989.7	987.0	984.3
38°	950.6	950.2	949.0	961.2	965.9	961.2	949.0	950.2	950.6	950.2	949.0
38.5°	913.8	914.6	915.4	925.9	927.9	925.9	915.4	914.6	913.8	914.6	915.4
39°	878.2	880.1	881.7	891.9	891.5	891.9	881.7	880.1	878.2	880.1	881.7
39.5°	843.3	846.8	849.6	858.2	857.0	858.2	849.6	846.8	843.3	846.8	849.6
40°	810.0	814.0	818.7	825.7	824.1	825.7	818.7	814.0	810.0	814.0	818.7
40.5°	778.7	782.6	788.9	794.0	793.6	794.0	788.9	782.6	778.7	782.6	788.9
41°	748.6	752.5	760.7	764.2	765.4	764.2	760.7	752.5	748.6	752.5	760.7
41.5°	720.0	724.3	733.7	735.7	739.2	735.7	733.7	724.3	720.0	724.3	733.7
42°	693.4	697.7	707.9	709.0	713.7	709.0	707.9	697.7	693.4	697.7	707.9
42.5°	668.3	672.6	683.6	684.0	689.1	684.0	683.6	672.6	668.3	672.6	683.6
43°	644.4	649.1	659.7	660.5	665.2	660.5	659.7	649.1	644.4	649.1	659.7
43.5°	622.5	627.2	637.4	637.8	642.1	637.8	637.4	627.2	622.5	627.2	637.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	566.1	570.0	576.3	578.3	580.2	578.3	576.3	570.0	566.1	570.0	576.3
45.5°	549.7	552.8	558.7	560.6	562.2	560.6	558.7	552.8	549.7	552.8	558.7
46°	534.0	536.8	541.9	544.6	545.4	544.6	541.9	536.8	534.0	536.8	541.9
46.5°	519.5	521.9	525.8	528.9	529.7	528.9	525.8	521.9	519.5	521.9	525.8
47°	505.8	507.4	511.3	514.4	515.6	514.4	511.3	507.4	505.8	507.4	511.3
47.5°	492.9	494.1	497.6	501.1	502.7	501.1	497.6	494.1	492.9	494.1	497.6
48°	480.8	482.3	485.9	489.0	490.6	489.0	485.9	482.3	480.8	482.3	485.9
48.5°	471.0	471.8	474.5	477.6	478.8	477.6	474.5	471.8	471.0	471.8	474.5
49°	461.6	462.0	464.3	466.7	467.9	466.7	464.3	462.0	461.6	462.0	464.3
49.5°	452.6	453.0	454.5	456.5	456.9	456.5	454.5	453.0	452.6	453.0	454.5
50°	443.2	443.6	444.8	446.3	446.7	446.3	444.8	443.6	443.2	443.6	444.8
50.5°	433.8	434.2	435.0	436.5	436.5	436.5	435.0	434.2	433.8	434.2	435.0
51°	423.2	424.0	425.2	426.7	426.7	426.7	425.2	424.0	423.2	424.0	425.2
51.5°	413.0	413.4	415.0	417.0	417.4	417.0	415.0	413.4	413.0	413.4	415.0
52°	402.5	403.3	404.8	406.8	407.2	406.8	404.8	403.3	402.5	403.3	404.8
52.5°	391.9	392.7	394.6	396.2	397.0	396.2	394.6	392.7	391.9	392.7	394.6
53°	382.1	382.9	384.5	386.0	386.8	386.0	384.5	382.9	382.1	382.9	384.5
53.5°	371.9	372.7	374.3	376.2	377.0	376.2	374.3	372.7	371.9	372.7	374.3
54°	362.5	362.9	364.5	366.1	366.8	366.1	364.5	362.9	362.5	362.9	364.5
54.5°	353.1	353.5	355.1	356.7	357.4	356.7	355.1	353.5	353.1	353.5	355.1
55°	343.7	344.5	346.1	347.3	347.7	347.3	346.1	344.5	343.7	344.5	346.1
55.5°	334.7	335.5	337.1	338.3	338.7	338.3	337.1	335.5	334.7	335.5	337.1
56°	326.1	326.9	328.1	329.3	329.7	329.3	328.1	326.9	326.1	326.9	328.1
56.5°	317.5	318.3	319.5	320.6	321.0	320.6	319.5	318.3	317.5	318.3	319.5
57°	308.9	309.7	310.9	312.0	312.4	312.0	310.9	309.7	308.9	309.7	310.9
57.5°	300.3	301.5	302.6	303.4	304.2	303.4	302.6	301.5	300.3	301.5	302.6
58°	292.9	293.2	294.4	295.6	296.0	295.6	294.4	293.2	292.9	293.2	294.4
58.5°	285.0	285.4	286.6	287.4	287.8	287.4	286.6	285.4	285.0	285.4	286.6
59°	277.2	277.6	278.4	279.1	279.9	279.1	278.4	277.6	277.2	277.6	278.4
59.5°	269.4	269.8	270.5	271.7	272.1	271.7	270.5	269.8	269.4	269.8	270.5
60°	261.9	262.3	263.1	263.9	264.3	263.9	263.1	262.3	261.9	262.3	263.1
60.5°	254.5	254.9	255.7	256.4	256.8	256.4	255.7	254.9	254.5	254.9	255.7
61°	247.4	247.8	248.6	249.4	249.8	249.4	248.6	247.8	247.4	247.8	248.6
61.5°	240.4	240.8	241.6	242.3	242.7	242.3	241.6	240.8	240.4	240.8	241.6
62°	233.7	233.7	234.5	235.3	235.3	235.3	234.5	233.7	233.7	233.7	234.5
62.5°	226.7	227.1	227.5	228.3	228.6	228.3	227.5	227.1	226.7	227.1	227.5
63°	220.0	220.4	220.8	221.6	221.6	221.6	220.8	220.4	220.0	220.4	220.8
63.5°	213.4	213.8	214.2	214.9	215.3	214.9	214.2	213.8	213.4	213.8	214.2
64°	207.1	207.5	207.9	208.3	208.7	208.3	207.9	207.5	207.1	207.5	207.9
64.5°	200.8	201.2	201.6	202.0	202.4	202.0	201.6	201.2	200.8	201.2	201.6
65°	194.6	195.0	195.4	195.8	196.1	195.8	195.4	195.0	194.6	195.0	195.4
65.5°	188.7	188.7	189.1	189.9	189.9	189.9	189.1	188.7	188.7	188.7	189.1
66°	182.4	182.8	183.2	183.6	184.0	183.6	183.2	182.8	182.4	182.8	183.2





TEST NUMBER: P776281

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	165.2	165.6	166.0	166.4	166.4	166.4	166.0	165.6	165.2	165.6	166.0
68°	159.7	160.1	160.5	160.9	160.9	160.9	160.5	160.1	159.7	160.1	160.5
68.5°	154.3	154.6	155.0	155.0	155.4	155.0	155.0	154.6	154.3	154.6	155.0
69°	149.2	149.2	149.2	149.9	149.9	149.9	149.2	149.2	149.2	149.2	149.2
69.5°	143.7	144.1	144.1	144.5	144.9	144.5	144.1	144.1	143.7	144.1	144.1
70°	139.0	139.4	139.0	139.4	139.8	139.4	139.0	139.4	139.0	139.4	139.0
70.5°	133.9	134.3	134.3	134.3	134.7	134.3	134.3	134.3	133.9	134.3	134.3
71°	129.2	129.2	129.2	129.2	129.6	129.2	129.2	129.2	129.2	129.2	129.2
71.5°	124.1	124.1	124.5	124.5	124.5	124.5	124.5	124.1	124.1	124.1	124.5
72°	119.4	119.4	119.4	119.8	119.8	119.8	119.4	119.4	119.4	119.4	119.4
72.5°	114.7	114.7	114.7	115.1	115.1	115.1	114.7	114.7	114.7	114.7	114.7
73°	110.0	110.0	110.0	110.4	110.4	110.4	110.0	110.0	110.0	110.0	110.0
73.5°	105.3	105.3	105.7	105.7	105.7	105.7	105.7	105.3	105.3	105.3	105.7
74°	101.0	101.0	101.0	101.4	101.4	101.4	101.0	101.0	101.0	101.0	101.0
74.5°	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7
75°	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4
75.5°	88.1	88.1	88.1	88.1	88.5	88.1	88.1	88.1	88.1	88.1	88.1
76°	84.2	83.8	83.8	84.2	84.2	84.2	83.8	83.8	84.2	83.8	83.8
76.5°	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9
77°	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0
77.5°	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0
78°	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
78.5°	64.6	64.6	64.2	64.2	64.6	64.2	64.2	64.6	64.6	64.6	64.2
79°	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7
79.5°	57.2	57.2	56.8	57.2	57.2	57.2	56.8	57.2	57.2	57.2	56.8
80°	53.6	53.6	53.2	53.2	53.2	53.2	53.2	53.6	53.6	53.6	53.2
80.5°	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1
81°	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
81.5°	43.1	43.1	43.1	43.1	43.1	43.1	43.1	43.1	43.1	43.1	43.1
82°	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9
82.5°	36.8	36.8	36.8	36.8	36.4	36.8	36.8	36.8	36.8	36.8	36.8
83°	33.7	33.7	33.7	33.3	33.3	33.3	33.7	33.7	33.7	33.7	33.7
83.5°	30.5	30.5	30.5	30.1	30.1	30.1	30.5	30.5	30.5	30.5	30.5
84°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
84.5°	24.7	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.7	24.3	24.3
85°	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
85.5°	18.8	18.4	18.8	18.4	18.8	18.4	18.8	18.4	18.8	18.4	18.8
86°	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
86.5°	13.3	12.9	12.9	12.9	13.3	12.9	12.9	12.9	13.3	12.9	12.9
87°	10.6	10.6	10.6	10.2	10.6	10.2	10.6	10.6	10.6	10.6	10.6
87.5°	7.8	7.8	7.8	7.8	8.2	7.8	7.8	7.8	7.8	7.8	7.8
88°	5.1	5.5	5.5	5.9	5.9	5.9	5.5	5.5	5.1	5.5	5.5
88.5°	3.1	3.1	3.5	3.9	4.7	3.9	3.5	3.1	3.1	3.1	3.5



TEST NUMBER: P776281  
CATALOG NUMBER: HCDJBL3040CSD-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: P776281

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2923.4	2923.4	2923.4	2923.4	2923.4	2923.4
0.5°	2922.2	2921.1	2922.2	2922.6	2923.4	2923.8
1°	2921.5	2919.9	2921.5	2921.9	2922.2	2922.6
1.5°	2919.5	2918.3	2919.5	2920.3	2920.3	2921.1
2°	2917.2	2915.6	2917.2	2917.5	2918.3	2918.7
2.5°	2914.0	2912.1	2914.0	2914.4	2915.2	2916.0
3°	2909.7	2907.8	2909.7	2910.5	2911.3	2912.1
3.5°	2905.0	2903.8	2905.0	2905.8	2907.0	2907.8
4°	2899.9	2898.0	2899.9	2900.7	2902.3	2902.7
4.5°	2894.1	2891.7	2894.1	2894.8	2896.4	2897.2
5°	2888.2	2885.4	2888.2	2889.0	2890.5	2891.7
5.5°	2880.3	2878.0	2880.3	2881.1	2883.1	2885.8
6°	2872.1	2869.0	2872.1	2873.3	2875.3	2876.8
6.5°	2863.1	2860.0	2863.1	2864.3	2866.6	2867.8
7°	2853.7	2851.0	2853.7	2855.7	2856.9	2858.4
7.5°	2843.9	2841.2	2843.9	2844.7	2846.3	2847.9
8°	2832.6	2831.0	2832.6	2833.8	2835.3	2836.5
8.5°	2820.4	2818.9	2820.4	2821.6	2823.2	2824.8
9°	2807.9	2806.4	2807.9	2809.1	2811.1	2812.2
9.5°	2794.6	2793.0	2794.6	2795.8	2797.7	2798.5
10°	2780.5	2778.6	2780.5	2782.1	2783.6	2784.8
10.5°	2765.6	2764.1	2765.6	2766.8	2768.8	2769.6
11°	2750.4	2748.4	2750.4	2751.9	2753.5	2754.3
11.5°	2734.3	2732.7	2734.3	2735.9	2737.4	2738.2
12°	2717.9	2716.3	2717.9	2719.8	2721.0	2721.8
12.5°	2700.6	2698.7	2700.6	2702.6	2703.8	2704.6
13°	2683.4	2681.5	2683.4	2685.0	2686.2	2686.9
13.5°	2665.4	2663.8	2665.4	2667.0	2667.8	2668.5
14°	2647.0	2645.4	2647.0	2648.6	2649.4	2649.7
14.5°	2627.8	2626.3	2627.8	2629.4	2629.8	2630.2
15°	2609.0	2607.5	2609.0	2609.8	2610.6	2610.6
15.5°	2590.2	2589.5	2590.2	2591.0	2590.2	2590.2
16°	2571.8	2571.1	2571.8	2572.2	2571.1	2570.7
16.5°	2553.4	2553.0	2553.4	2553.4	2551.9	2551.1
17°	2534.6	2535.0	2534.6	2535.0	2533.5	2532.7
17.5°	2516.2	2515.9	2516.2	2516.6	2515.5	2514.7
18°	2497.5	2496.7	2497.5	2498.2	2497.5	2497.1
18.5°	2477.5	2476.3	2477.5	2478.3	2478.3	2478.3
19°	2456.0	2454.8	2456.0	2457.1	2457.9	2459.1
19.5°	2433.2	2432.1	2433.2	2434.0	2436.4	2437.9
20°	2409.0	2406.2	2409.0	2408.6	2412.9	2414.8
20.5°	2382.7	2379.6	2382.7	2381.2	2386.3	2389.4
21°	2354.2	2350.2	2354.2	2352.2	2358.1	2362.8



TEST NUMBER: P776281

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2256.3	2254.3	2256.3	2256.7	2260.6	2265.3
23°	2220.7	2219.9	2220.7	2223.4	2224.2	2228.1
23.5°	2183.9	2185.8	2183.9	2188.5	2186.6	2190.1
24°	2146.3	2149.8	2146.3	2152.5	2147.8	2150.6
24.5°	2108.3	2113.0	2108.3	2114.6	2108.7	2109.9
25°	2070.3	2073.8	2070.3	2075.0	2068.0	2067.2
25.5°	2032.3	2033.1	2032.3	2034.3	2028.0	2022.9
26°	1992.8	1989.7	1992.8	1992.4	1986.5	1977.5
26.5°	1951.7	1944.6	1951.7	1948.9	1944.2	1930.9
27°	1909.4	1898.8	1909.4	1905.1	1900.4	1885.5
27.5°	1865.9	1852.2	1865.9	1860.5	1855.0	1840.9
28°	1820.5	1805.7	1820.5	1815.0	1809.6	1796.3
28.5°	1774.3	1760.6	1774.3	1769.6	1763.4	1752.8
29°	1727.3	1718.0	1727.3	1724.2	1716.8	1709.7
29.5°	1680.4	1676.1	1680.4	1679.2	1671.0	1667.4
30°	1633.4	1633.8	1633.4	1633.0	1624.0	1625.2
30.5°	1588.0	1593.8	1588.0	1587.2	1578.6	1581.3
31°	1542.6	1551.6	1542.6	1541.0	1532.0	1537.9
31.5°	1497.5	1508.9	1497.5	1494.8	1487.4	1493.2
32°	1453.3	1465.0	1453.3	1449.0	1442.3	1447.8
32.5°	1409.4	1421.2	1409.4	1404.0	1399.3	1404.0
33°	1365.6	1376.6	1365.6	1357.8	1356.2	1359.7
33.5°	1321.7	1331.5	1321.7	1312.0	1313.1	1320.2
34°	1278.7	1288.9	1278.7	1266.5	1270.1	1277.5
34.5°	1235.2	1246.6	1235.2	1222.3	1227.4	1235.2
35°	1193.3	1205.5	1193.3	1180.4	1185.9	1192.5
35.5°	1151.8	1165.1	1151.8	1138.9	1144.8	1151.0
36°	1111.9	1125.6	1111.9	1098.6	1103.7	1110.3
36.5°	1072.3	1085.3	1072.3	1059.4	1064.1	1070.0
37°	1034.0	1045.3	1034.0	1021.1	1025.0	1029.3
37.5°	997.2	1005.4	997.2	984.3	987.0	989.7
38°	961.2	965.9	961.2	949.0	950.2	950.6
38.5°	925.9	927.9	925.9	915.4	914.6	913.8
39°	891.9	891.5	891.9	881.7	880.1	878.2
39.5°	858.2	857.0	858.2	849.6	846.8	843.3
40°	825.7	824.1	825.7	818.7	814.0	810.0
40.5°	794.0	793.6	794.0	788.9	782.6	778.7
41°	764.2	765.4	764.2	760.7	752.5	748.6
41.5°	735.7	739.2	735.7	733.7	724.3	720.0
42°	709.0	713.7	709.0	707.9	697.7	693.4
42.5°	684.0	689.1	684.0	683.6	672.6	668.3
43°	660.5	665.2	660.5	659.7	649.1	644.4
43.5°	637.8	642.1	637.8	637.4	627.2	622.5



TEST NUMBER: P776281

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	578.3	580.2	578.3	576.3	570.0	566.1
45.5°	560.6	562.2	560.6	558.7	552.8	549.7
46°	544.6	545.4	544.6	541.9	536.8	534.0
46.5°	528.9	529.7	528.9	525.8	521.9	519.5
47°	514.4	515.6	514.4	511.3	507.4	505.8
47.5°	501.1	502.7	501.1	497.6	494.1	492.9
48°	489.0	490.6	489.0	485.9	482.3	480.8
48.5°	477.6	478.8	477.6	474.5	471.8	471.0
49°	466.7	467.9	466.7	464.3	462.0	461.6
49.5°	456.5	456.9	456.5	454.5	453.0	452.6
50°	446.3	446.7	446.3	444.8	443.6	443.2
50.5°	436.5	436.5	436.5	435.0	434.2	433.8
51°	426.7	426.7	426.7	425.2	424.0	423.2
51.5°	417.0	417.4	417.0	415.0	413.4	413.0
52°	406.8	407.2	406.8	404.8	403.3	402.5
52.5°	396.2	397.0	396.2	394.6	392.7	391.9
53°	386.0	386.8	386.0	384.5	382.9	382.1
53.5°	376.2	377.0	376.2	374.3	372.7	371.9
54°	366.1	366.8	366.1	364.5	362.9	362.5
54.5°	356.7	357.4	356.7	355.1	353.5	353.1
55°	347.3	347.7	347.3	346.1	344.5	343.7
55.5°	338.3	338.7	338.3	337.1	335.5	334.7
56°	329.3	329.7	329.3	328.1	326.9	326.1
56.5°	320.6	321.0	320.6	319.5	318.3	317.5
57°	312.0	312.4	312.0	310.9	309.7	308.9
57.5°	303.4	304.2	303.4	302.6	301.5	300.3
58°	295.6	296.0	295.6	294.4	293.2	292.9
58.5°	287.4	287.8	287.4	286.6	285.4	285.0
59°	279.1	279.9	279.1	278.4	277.6	277.2
59.5°	271.7	272.1	271.7	270.5	269.8	269.4
60°	263.9	264.3	263.9	263.1	262.3	261.9
60.5°	256.4	256.8	256.4	255.7	254.9	254.5
61°	249.4	249.8	249.4	248.6	247.8	247.4
61.5°	242.3	242.7	242.3	241.6	240.8	240.4
62°	235.3	235.3	235.3	234.5	233.7	233.7
62.5°	228.3	228.6	228.3	227.5	227.1	226.7
63°	221.6	221.6	221.6	220.8	220.4	220.0
63.5°	214.9	215.3	214.9	214.2	213.8	213.4
64°	208.3	208.7	208.3	207.9	207.5	207.1
64.5°	202.0	202.4	202.0	201.6	201.2	200.8
65°	195.8	196.1	195.8	195.4	195.0	194.6
65.5°	189.9	189.9	189.9	189.1	188.7	188.7
66°	183.6	184.0	183.6	183.2	182.8	182.4



TEST NUMBER: P776281

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	166.4	166.4	166.4	166.0	165.6	165.2
68°	160.9	160.9	160.9	160.5	160.1	159.7
68.5°	155.0	155.4	155.0	155.0	154.6	154.3
69°	149.9	149.9	149.9	149.2	149.2	149.2
69.5°	144.5	144.9	144.5	144.1	144.1	143.7
70°	139.4	139.8	139.4	139.0	139.4	139.0
70.5°	134.3	134.7	134.3	134.3	134.3	133.9
71°	129.2	129.6	129.2	129.2	129.2	129.2
71.5°	124.5	124.5	124.5	124.5	124.1	124.1
72°	119.8	119.8	119.8	119.4	119.4	119.4
72.5°	115.1	115.1	115.1	114.7	114.7	114.7
73°	110.4	110.4	110.4	110.0	110.0	110.0
73.5°	105.7	105.7	105.7	105.7	105.3	105.3
74°	101.4	101.4	101.4	101.0	101.0	101.0
74.5°	96.7	96.7	96.7	96.7	96.7	96.7
75°	92.4	92.4	92.4	92.4	92.4	92.4
75.5°	88.1	88.5	88.1	88.1	88.1	88.1
76°	84.2	84.2	84.2	83.8	83.8	84.2
76.5°	79.9	79.9	79.9	79.9	79.9	79.9
77°	76.0	76.0	76.0	76.0	76.0	76.0
77.5°	72.0	72.0	72.0	72.0	72.0	72.0
78°	68.1	68.1	68.1	68.1	68.1	68.1
78.5°	64.2	64.6	64.2	64.2	64.6	64.6
79°	60.7	60.7	60.7	60.7	60.7	60.7
79.5°	57.2	57.2	57.2	56.8	57.2	57.2
80°	53.2	53.2	53.2	53.2	53.6	53.6
80.5°	50.1	50.1	50.1	50.1	50.1	50.1
81°	46.6	46.6	46.6	46.6	46.6	46.6
81.5°	43.1	43.1	43.1	43.1	43.1	43.1
82°	39.9	39.9	39.9	39.9	39.9	39.9
82.5°	36.8	36.4	36.8	36.8	36.8	36.8
83°	33.3	33.3	33.3	33.7	33.7	33.7
83.5°	30.1	30.1	30.1	30.5	30.5	30.5
84°	27.4	27.4	27.4	27.4	27.4	27.4
84.5°	24.3	24.3	24.3	24.3	24.3	24.7
85°	21.5	21.5	21.5	21.5	21.5	21.5
85.5°	18.4	18.8	18.4	18.8	18.4	18.8
86°	15.7	15.7	15.7	15.7	15.7	15.7
86.5°	12.9	13.3	12.9	12.9	12.9	13.3
87°	10.2	10.6	10.2	10.6	10.6	10.6
87.5°	7.8	8.2	7.8	7.8	7.8	7.8
88°	5.9	5.9	5.9	5.5	5.5	5.1
88.5°	3.9	4.7	3.9	3.5	3.1	3.1



TEST NUMBER: P776281

CATALOG NUMBER: HCDJBL3040CSD-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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Scaled Data Report





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

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Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report





21.5°	2331.8	2327.9	2321.3	2323.2	2319.3	2323.2	2321.3	2327.9	2331.8	2327.9	2321.3
22°	2299.3	2295.4	2289.6	2290.3	2286.4	2290.3	2289.6	2295.4	2299.3	2295.4	2289.6



44°	602.1	606.8	615.8	616.6	620.5	616.6	615.8	606.8	602.1	606.8	615.8
44.5°	583.4	588.1	595.9	597.1	599.8	597.1	595.9	588.1	583.4	588.1	595.9



66.5°	176.6	177.0	177.4	177.7	178.1	177.7	177.4	177.0	176.6	177.0	177.4
67°	171.1	171.1	171.5	171.9	172.3	171.9	171.5	171.1	171.1	171.1	171.5



89°	1.2	1.6	2.3	2.7	3.1	2.7	2.3	1.6	1.2	1.6	2.3
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°	2323.2	2319.3	2323.2	2321.3	2327.9	2331.8
22°	2290.3	2286.4	2290.3	2289.6	2295.4	2299.3

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44°	616.6	620.5	616.6	615.8	606.8	602.1
44.5°	597.1	599.8	597.1	595.9	588.1	583.4



66.5°	177.7	178.1	177.7	177.4	177.0	176.6
67°	171.9	172.3	171.9	171.5	171.1	171.1

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89°	2.7	3.1	2.7	2.3	1.6	1.2
89.5°	1.6	2.0	1.6	1.2	0.4	0.0

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(END OF REPORT)