

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: P776418

Luminaire Tested: HCDJBL3040CSD-HCD6TSQH-4000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776418
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2310613A001)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD6TSQH-4000lm-4000K
Description: 6 INCH SQUARE MEDIUM HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

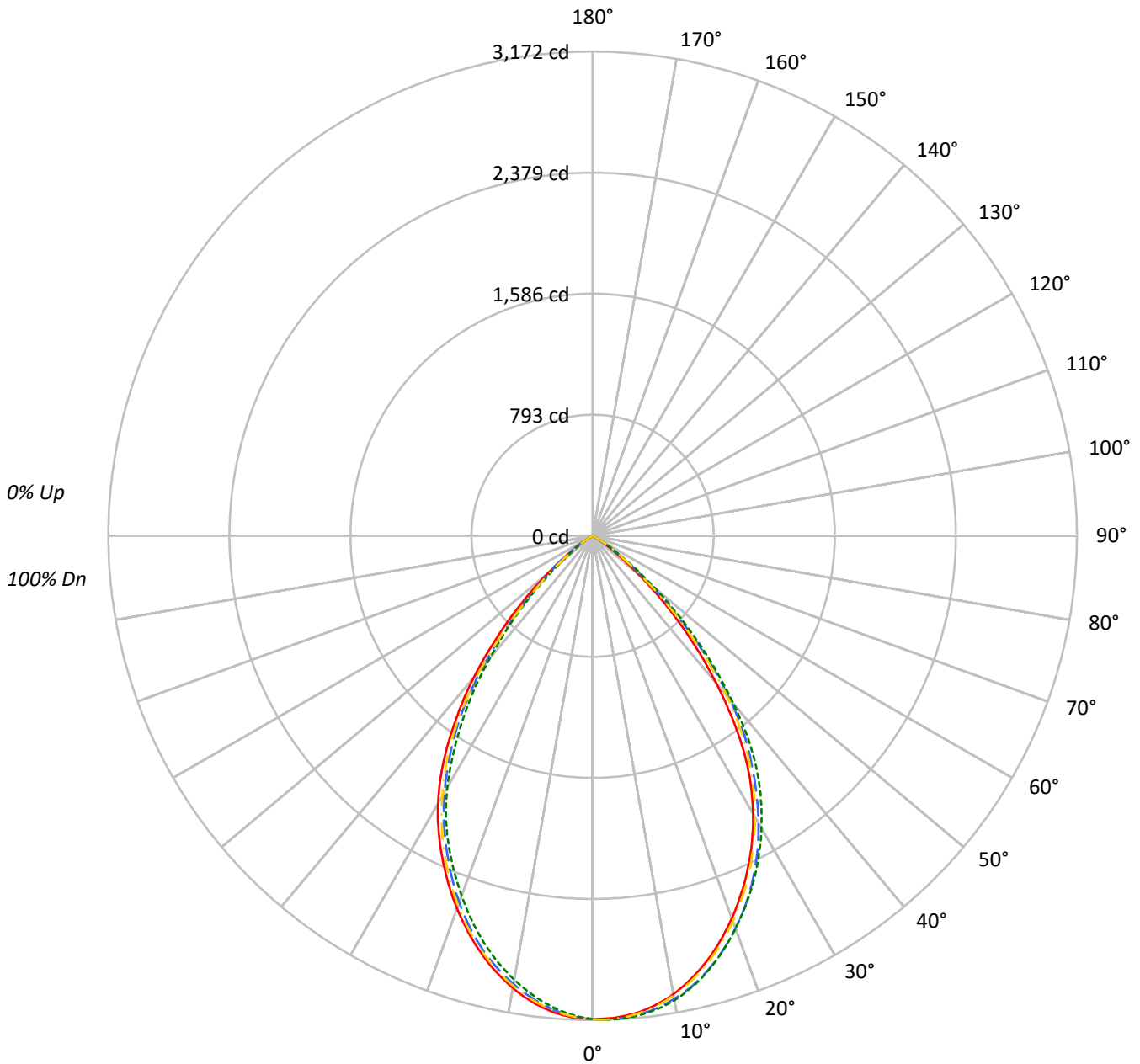
Lumens per Lamp: N/A
Luminaire Lumens: 3982.8 lumens
Efficiency: N/A
Efficacy: 103.4 lumens/watt
Spacing Criteria (0/90/45): 1.02 / 1.02 / 1.06
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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				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			100
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92			92
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84			84
3	100	93	87	83	98	92	86	82	89	85	81	86	83	80	84	81	78	77			77
4	94	86	80	75	92	85	79	74	82	77	73	80	76	73	78	75	72	70			70
5	89	79	73	68	87	78	72	68	76	71	67	75	70	66	73	69	66	64			64
6	83	73	67	62	82	73	66	62	71	65	61	69	64	61	68	64	60	59			59
7	78	68	61	57	77	67	61	56	66	60	56	65	60	56	64	59	55	54			54
8	74	63	57	52	73	63	56	52	62	56	52	61	55	51	59	55	51	50			50
9	70	59	53	48	69	59	52	48	58	52	48	57	51	48	56	51	47	46			46
10	66	55	49	45	65	55	49	45	54	48	44	53	48	44	52	48	44	43			43

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	173615	173615	173615	173615
5°	172842	173893	172061	170322
10°	169720	171963	167460	164465
15°	163764	167089	160472	156454
20°	155554	159725	151528	146365
25°	145496	150958	140839	135020
30°	133058	139984	128184	120557
35°	115543	125528	109801	99863
40°	90069	102614	86562	75012
45°	61758	74488	59394	48222
50°	34012	45022	32536	23684
55°	13008	19775	14069	10083
60°	1710	5065	3388	1327
65°	221	402	311	221
70°	48	112	112	112
75°	64	64	64	64
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 74488 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.6	7.4
10°-20°	801.5	20.1
20°-30°	1084.2	27.2
30°-40°	1040.9	26.1
40°-50°	606.2	15.2
50°-60°	149.2	3.7
60°-70°	4.8	0.1
70°-80°	0.2	0.0
80°-90°	0.0	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°	2181.4	54.8
0°-40°	3222.3	80.9
0°-60°	3977.7	99.9
0°-90°	3982.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3982.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3167	3167	3167	3167	3167	
5°	3141	3160	3127	3095	3141	297
15°	2886	2944	2828	2757	2886	809
25°	2405	2496	2328	2232	2405	1102
35°	1726	1876	1641	1492	1726	1062
45°	797	961	766	622	797	615
55°	136	207	147	106	136	140
65°	2	3	2	2	2	3
75°	0	0	0	0	0	0
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°	3167.0	3167.0	3167.0	3167.0	3167.0	3167.0	3167.0	3167.0	3167.0	3167.0	3167.0
0.5°	3166.3	3166.6	3169.0	3171.1	3168.0	3169.4	3170.1	3168.7	3165.6	3164.2	3164.5
1°	3165.6	3167.0	3170.4	3172.9	3170.1	3170.8	3170.8	3168.3	3164.2	3161.4	3161.7
1.5°	3164.5	3167.0	3170.8	3173.9	3171.1	3171.8	3170.4	3167.3	3162.8	3158.6	3157.9
2°	3162.8	3166.6	3170.8	3173.9	3171.8	3171.8	3170.1	3165.6	3159.3	3155.2	3153.4
2.5°	3162.8	3165.2	3169.7	3173.2	3171.1	3170.8	3168.3	3163.1	3156.5	3150.6	3147.9
3°	3157.6	3163.1	3168.7	3172.2	3170.4	3169.7	3165.9	3159.3	3151.7	3145.4	3141.6
3.5°	3154.5	3160.7	3166.6	3170.4	3168.7	3167.0	3162.8	3155.5	3146.8	3139.5	3135.7
4°	3150.6	3157.9	3163.8	3168.0	3166.3	3164.5	3159.3	3150.3	3141.3	3133.3	3127.4
4.5°	3145.8	3154.5	3160.4	3164.9	3163.5	3161.1	3154.5	3144.7	3135.0	3125.3	3119.4
5°	3140.9	3149.9	3156.5	3161.4	3160.0	3156.9	3149.3	3138.5	3126.7	3117.0	3110.4
5.5°	3136.4	3144.7	3152.4	3156.9	3156.2	3152.4	3143.0	3131.2	3118.0	3107.9	3100.3
6°	3128.4	3138.8	3147.2	3152.0	3151.7	3146.8	3136.1	3122.5	3109.0	3098.2	3089.9
6.5°	3121.5	3132.9	3141.3	3146.8	3146.1	3140.6	3129.5	3113.2	3098.9	3087.8	3078.1
7°	3113.5	3125.7	3134.3	3140.9	3140.2	3134.3	3120.8	3103.8	3088.5	3076.4	3067.0
7.5°	3104.5	3117.7	3127.0	3133.6	3133.3	3127.0	3112.1	3092.7	3076.4	3063.9	3053.8
8°	3094.8	3109.0	3119.4	3125.7	3126.0	3119.4	3102.7	3081.6	3064.2	3051.0	3041.0
8.5°	3084.7	3099.6	3110.7	3117.3	3118.0	3110.4	3092.3	3069.8	3051.4	3037.8	3026.7
9°	3073.6	3089.2	3101.7	3108.3	3109.0	3101.0	3081.9	3057.3	3037.5	3023.9	3013.2
9.5°	3061.4	3078.8	3091.3	3098.6	3099.6	3091.3	3069.8	3043.7	3023.9	3009.0	2997.9
10°	3048.9	3067.3	3081.2	3088.2	3089.2	3080.2	3057.6	3030.2	3008.3	2994.1	2982.3
10.5°	3035.4	3054.8	3069.8	3077.1	3077.8	3068.7	3044.8	3015.3	2993.1	2978.5	2966.3
11°	3021.5	3042.3	3058.7	3065.3	3065.9	3055.9	3031.2	3000.3	2976.7	2962.2	2950.0
11.5°	3006.9	3028.8	3045.5	3052.4	3053.1	3043.0	3017.4	2984.7	2959.4	2945.5	2933.0
12°	2990.6	3014.6	3033.0	3038.9	3039.6	3028.8	3002.1	2968.4	2942.4	2928.1	2915.3
12.5°	2974.7	2999.7	3018.4	3025.3	3025.3	3014.2	2986.5	2951.8	2924.7	2910.1	2897.6
13°	2958.3	2984.7	3004.5	3011.5	3011.5	2999.3	2971.2	2934.7	2906.6	2891.7	2879.2
13.5°	2940.6	2968.1	2989.2	2995.5	2994.8	2982.6	2953.8	2916.7	2887.2	2873.0	2860.1
14°	2923.3	2951.8	2973.3	2979.9	2978.5	2966.3	2936.8	2898.3	2868.1	2853.2	2840.3
14.5°	2904.5	2934.1	2956.6	2963.6	2960.8	2948.3	2919.1	2878.9	2848.3	2832.3	2820.2
15°	2885.5	2916.7	2939.3	2946.5	2944.1	2930.6	2900.0	2859.4	2827.5	2811.2	2799.4
15.5°	2865.7	2898.0	2921.6	2929.5	2925.4	2912.2	2880.6	2839.3	2806.3	2790.7	2777.9
16°	2845.5	2878.5	2903.2	2910.4	2907.0	2893.1	2861.5	2818.8	2785.1	2768.8	2755.3
16.5°	2824.7	2859.1	2883.7	2891.7	2887.5	2873.0	2841.0	2797.6	2763.3	2745.9	2732.4
17°	2803.5	2838.9	2864.6	2872.6	2867.1	2852.8	2820.5	2776.1	2740.4	2722.3	2709.1
17.5°	2781.3	2818.5	2844.5	2853.2	2846.9	2832.0	2799.0	2753.2	2717.8	2698.7	2684.5
18°	2759.5	2796.9	2824.0	2832.3	2825.4	2810.8	2777.9	2731.0	2693.5	2674.4	2659.5
18.5°	2736.9	2775.1	2802.5	2811.5	2803.9	2789.3	2755.3	2707.4	2669.9	2649.4	2634.8
19°	2713.6	2752.9	2781.7	2790.4	2782.4	2767.4	2732.4	2683.8	2646.0	2625.1	2608.1
19.5°	2690.0	2730.0	2759.1	2768.5	2760.5	2744.5	2709.1	2659.5	2622.4	2598.8	2581.4
20°	2666.4	2707.0	2737.2	2746.3	2737.9	2720.9	2686.2	2635.9	2597.4	2572.7	2554.7
20.5°	2641.8	2682.7	2714.3	2722.3	2714.0	2698.0	2661.9	2610.9	2572.0	2546.3	2527.9
21°	2617.1	2658.5	2691.1	2699.4	2690.7	2674.1	2636.9	2586.3	2547.0	2520.3	2501.2



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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°	2541.1	2582.8	2617.8	2625.8	2621.3	2599.4	2561.3	2512.0	2467.9	2438.4	2414.1
23°	2515.1	2556.4	2592.2	2600.5	2596.7	2573.1	2536.3	2485.2	2439.8	2409.9	2384.9
23.5°	2488.7	2529.3	2566.1	2574.5	2572.0	2546.7	2510.9	2458.5	2412.4	2380.8	2354.7
24°	2461.3	2502.6	2538.7	2547.7	2547.4	2520.3	2483.9	2431.4	2384.2	2352.0	2324.9
24.5°	2433.5	2475.2	2511.6	2521.0	2522.7	2498.1	2455.7	2404.0	2357.2	2322.8	2294.3
25°	2405.4	2447.4	2483.9	2493.6	2495.7	2470.7	2427.3	2376.6	2328.4	2293.6	2264.8
25.5°	2377.3	2417.9	2455.7	2465.1	2468.6	2442.6	2398.8	2348.1	2299.9	2263.8	2234.3
26°	2349.2	2389.8	2426.6	2437.3	2441.9	2415.1	2370.0	2320.4	2271.4	2234.3	2204.1
26.5°	2319.3	2361.0	2396.7	2408.5	2414.8	2386.0	2340.2	2291.6	2242.6	2204.4	2173.2
27°	2290.2	2330.4	2367.2	2379.4	2387.4	2357.9	2311.0	2263.1	2212.4	2174.6	2142.7
27.5°	2259.6	2299.5	2336.3	2349.9	2358.6	2328.4	2281.5	2233.9	2183.6	2144.0	2111.1
28°	2229.4	2268.7	2304.4	2319.3	2329.7	2299.2	2251.6	2204.1	2153.4	2111.8	2078.4
28.5°	2198.5	2237.4	2272.5	2288.8	2301.3	2269.4	2221.5	2174.6	2123.2	2079.1	2044.8
29°	2167.0	2205.5	2239.8	2257.5	2272.1	2239.5	2190.2	2143.7	2091.6	2046.9	2011.1
29.5°	2134.7	2172.2	2206.2	2226.0	2241.6	2209.6	2159.0	2111.4	2058.7	2013.2	1975.4
30°	2102.0	2138.5	2172.5	2193.7	2211.4	2179.1	2127.0	2079.1	2025.0	1979.2	1940.0
30.5°	2068.7	2104.5	2138.5	2159.7	2180.5	2147.5	2094.8	2045.5	1991.7	1943.4	1903.9
31°	2034.7	2069.8	2102.4	2127.0	2150.3	2115.9	2061.4	2011.8	1955.9	1907.7	1867.1
31.5°	1999.7	2034.4	2068.0	2092.7	2117.7	2084.0	2027.8	1977.1	1919.5	1871.6	1829.9
32°	1963.2	1997.6	2031.6	2057.6	2085.4	2051.4	1994.1	1941.7	1882.0	1834.4	1791.7
32.5°	1927.5	1962.5	1995.5	2021.9	2052.8	2017.7	1959.4	1905.6	1844.2	1796.6	1754.3
33°	1890.0	1925.4	1959.7	1986.8	2019.4	1983.7	1924.3	1867.8	1805.3	1757.4	1716.8
33.5°	1851.4	1888.2	1924.7	1951.1	1984.4	1949.3	1888.9	1829.6	1765.4	1718.2	1678.9
34°	1810.8	1850.1	1887.5	1915.0	1950.0	1913.9	1852.8	1791.0	1725.1	1679.3	1640.4
34.5°	1769.5	1812.6	1850.4	1878.5	1912.5	1876.8	1817.1	1751.5	1682.4	1637.6	1600.8
35°	1726.5	1773.3	1812.6	1840.3	1875.7	1840.0	1780.3	1710.9	1640.7	1596.0	1561.6
35.5°	1683.4	1734.1	1776.5	1802.5	1836.9	1802.8	1743.5	1670.6	1599.4	1554.7	1521.3
36°	1637.3	1694.6	1736.9	1764.7	1798.0	1765.0	1705.7	1630.0	1557.8	1512.7	1479.7
36.5°	1591.1	1652.6	1699.8	1726.8	1756.3	1725.8	1666.4	1588.7	1515.4	1470.0	1436.7
37°	1543.6	1609.9	1660.2	1686.9	1714.0	1685.2	1626.2	1547.7	1471.7	1426.9	1391.5
37.5°	1496.4	1565.4	1619.6	1646.0	1670.3	1643.5	1585.6	1505.4	1430.4	1383.2	1347.4
38°	1447.4	1520.0	1577.2	1601.9	1625.1	1599.8	1543.2	1463.4	1387.0	1338.4	1300.9
38.5°	1400.9	1474.5	1534.9	1560.6	1577.6	1555.7	1500.2	1421.0	1344.0	1293.3	1254.8
39°	1352.3	1427.3	1490.1	1515.4	1530.7	1510.2	1455.4	1378.3	1299.9	1247.8	1208.6
39.5°	1305.4	1380.1	1444.6	1470.3	1482.5	1463.0	1409.9	1334.3	1256.2	1202.0	1160.7
40°	1258.6	1330.1	1397.1	1423.5	1433.9	1413.4	1363.4	1289.1	1209.6	1154.8	1112.8
40.5°	1212.1	1281.5	1351.3	1375.6	1386.0	1363.8	1316.9	1244.0	1164.2	1108.3	1063.9
41°	1164.9	1235.7	1304.4	1326.6	1338.1	1313.1	1266.9	1198.5	1117.7	1062.1	1015.3
41.5°	1118.4	1188.1	1256.5	1278.0	1291.9	1263.1	1218.0	1153.8	1071.2	1018.0	967.4
42°	1071.5	1140.2	1207.2	1249.2	1244.7	1212.8	1168.3	1106.2	1024.3	971.9	920.2
42.5°	1024.6	1092.7	1157.9	1196.5	1199.2	1162.8	1119.4	1059.4	980.9	927.1	874.7
43°	977.1	1044.8	1108.6	1142.7	1153.1	1113.5	1070.8	1011.5	936.1	882.7	831.0
43.5°	930.6	998.6	1059.7	1089.2	1104.1	1065.3	1022.2	964.9	894.1	838.9	787.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	796.6	860.1	911.5	940.0	960.8	922.2	877.8	825.8	766.1	711.2	666.1
45.5°	754.3	814.0	862.9	893.8	913.6	874.3	830.6	782.4	724.1	670.6	627.9
46°	710.5	769.2	814.6	847.6	868.1	828.5	784.8	737.6	683.1	630.3	590.8
46.5°	667.5	724.7	766.7	801.8	824.0	783.4	738.6	694.2	641.4	593.2	555.0
47°	625.5	680.7	720.9	755.6	779.9	739.3	694.2	650.1	601.2	554.7	520.0
47.5°	584.5	637.3	676.8	710.9	736.2	696.3	650.8	608.5	562.3	519.3	487.0
48°	544.6	595.3	633.5	666.8	693.2	655.7	608.8	566.5	524.8	484.6	455.4
48.5°	506.4	554.7	590.8	624.1	650.8	616.5	568.6	526.6	488.0	452.3	425.5
49°	468.9	514.8	550.5	582.1	608.8	577.2	529.0	487.3	451.2	420.0	396.7
49.5°	432.8	475.9	510.9	541.5	567.2	539.4	492.5	450.2	415.8	389.4	368.3
50°	398.8	437.3	472.8	500.5	527.9	501.6	456.4	414.8	381.5	360.6	342.2
50.5°	365.2	399.9	435.3	461.6	489.4	465.8	422.4	381.1	349.2	335.3	318.3
51°	333.6	365.2	400.6	424.2	451.9	430.8	390.1	349.5	321.1	310.3	294.3
51.5°	302.3	332.2	366.5	388.8	416.9	397.4	359.3	322.8	293.3	285.0	270.7
52°	273.2	301.3	334.6	355.1	382.9	364.8	333.6	296.1	265.2	260.0	246.8
52.5°	245.4	271.4	303.4	322.1	349.9	337.0	307.5	269.0	237.4	235.0	224.6
53°	219.7	244.4	274.6	291.2	320.4	308.9	281.5	242.3	215.6	213.5	204.8
53.5°	195.4	219.4	246.4	262.4	290.9	281.2	255.5	219.7	195.8	194.0	185.4
54°	173.9	196.1	221.1	236.0	261.0	253.0	229.4	199.2	178.1	175.6	167.7
54.5°	154.1	174.2	196.1	211.0	231.9	225.3	208.3	180.5	162.1	157.9	149.6
55°	136.1	154.8	173.9	188.5	206.9	203.7	188.1	163.8	147.2	142.0	133.3
55.5°	118.7	135.7	152.7	167.3	184.3	181.5	169.0	147.2	132.6	126.0	117.3
56°	105.2	118.4	134.0	147.5	163.5	162.1	150.6	132.2	118.7	111.4	102.7
56.5°	91.3	104.5	117.7	128.8	144.4	143.4	133.3	118.0	105.5	97.5	88.9
57°	77.8	90.9	103.4	113.8	126.7	126.0	117.3	104.1	92.7	84.7	76.4
57.5°	64.2	77.1	88.9	99.3	109.7	109.3	102.0	90.9	80.9	72.9	64.6
58°	51.4	63.2	74.6	84.3	94.4	94.1	88.2	78.8	69.4	60.7	51.7
58.5°	38.9	49.6	60.4	69.8	80.5	80.2	75.3	67.0	57.3	51.7	44.1
59°	28.5	37.5	46.9	55.2	67.0	67.7	62.5	54.1	48.6	42.7	36.1
59.5°	20.8	27.4	34.4	41.3	56.6	58.3	52.8	45.8	39.9	33.3	28.5
60°	15.6	19.8	25.0	30.2	46.2	48.9	43.4	37.5	30.9	24.3	20.8
60.5°	11.5	14.9	18.0	21.5	35.8	39.6	33.7	29.2	22.2	15.3	12.8
61°	9.7	12.8	13.5	16.0	25.3	30.2	24.0	20.8	13.9	11.8	10.1
61.5°	8.0	10.8	11.5	11.8	14.9	20.8	14.6	12.5	10.4	9.4	8.0
62°	6.2	8.7	9.4	10.1	11.1	11.5	11.1	9.4	8.0	7.3	6.6
62.5°	4.5	6.6	7.3	8.3	8.7	8.7	8.3	7.6	6.2	5.9	5.2
63°	3.8	4.9	5.6	6.6	6.9	6.9	6.6	5.9	5.2	4.9	4.5
63.5°	3.1	3.8	4.5	4.9	5.6	5.6	5.2	4.9	4.2	4.2	3.8
64°	2.4	3.1	3.8	4.2	4.5	4.5	4.5	4.2	3.5	3.5	3.1
64.5°	2.1	2.8	3.1	3.5	3.8	3.8	3.5	3.5	2.8	2.8	2.8
65°	1.7	2.4	2.8	2.8	3.1	3.1	3.1	2.8	2.4	2.4	2.4
65.5°	1.7	2.1	2.1	2.4	2.8	2.4	2.4	2.4	2.1	2.1	2.1
66°	1.4	1.7	2.1	2.1	2.1	2.1	2.1	2.1	1.7	1.7	1.7



TEST NUMBER: P776418

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.0	1.0	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0	1.0
68°	0.7	1.0	1.0	1.0	1.4	1.0	1.4	1.0	1.0	1.0	1.0
68.5°	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
69°	0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	0.7	0.7	0.7
69.5°	0.7	0.7	0.7	0.7	1.0	0.7	0.7	0.7	0.7	0.7	0.7
70°	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
70.5°	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
71°	0.3	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
71.5°	0.3	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.3	0.3	0.3
72°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
72.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
73°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
73.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
74°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
74.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
75°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
75.5°	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
76°	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
76.5°	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
77°	0.0	0.0	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	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: P776418

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-4000K

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: P776418

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3167.0	3167.0	3167.0	3167.0	3167.0	3167.0
0.5°	3165.9	3162.1	3164.2	3165.9	3167.0	3166.3
1°	3162.4	3157.9	3160.4	3163.1	3164.9	3165.6
1.5°	3157.9	3153.1	3156.2	3159.3	3163.1	3164.5
2°	3152.4	3147.2	3150.6	3155.2	3159.3	3162.8
2.5°	3146.5	3140.6	3144.0	3150.3	3155.8	3162.8
3°	3139.5	3132.9	3137.5	3144.0	3152.4	3157.6
3.5°	3131.9	3124.6	3129.5	3138.1	3147.5	3154.5
4°	3123.9	3115.9	3121.1	3131.2	3142.7	3150.6
4.5°	3114.9	3105.9	3112.1	3123.6	3136.4	3145.8
5°	3104.8	3095.1	3102.0	3114.9	3129.8	3140.9
5.5°	3094.1	3084.3	3091.3	3105.9	3122.2	3136.4
6°	3082.6	3072.5	3080.5	3096.5	3114.5	3128.4
6.5°	3070.5	3059.4	3068.4	3085.7	3105.9	3121.5
7°	3058.0	3046.9	3055.9	3074.6	3096.8	3113.5
7.5°	3044.4	3032.6	3042.7	3063.5	3086.8	3104.5
8°	3030.9	3017.7	3029.2	3051.0	3076.0	3094.8
8.5°	3016.3	3002.4	3014.6	3037.8	3063.9	3084.7
9°	3001.7	2987.2	2999.3	3024.3	3051.7	3073.6
9.5°	2985.4	2970.8	2984.0	3009.7	3038.5	3061.4
10°	2969.5	2954.5	2967.7	2995.1	3025.0	3048.9
10.5°	2952.4	2936.5	2951.4	2979.5	3010.8	3035.4
11°	2935.1	2918.4	2934.1	2962.9	2995.8	3021.5
11.5°	2917.4	2900.4	2916.0	2945.9	2980.2	3006.9
12°	2898.6	2880.9	2897.6	2928.5	2963.6	2990.6
12.5°	2879.9	2861.9	2878.9	2910.1	2946.5	2974.7
13°	2860.1	2841.7	2859.1	2891.7	2929.5	2958.3
13.5°	2840.0	2821.2	2838.6	2872.3	2911.1	2940.6
14°	2818.8	2800.4	2817.8	2853.2	2892.7	2923.3
14.5°	2797.3	2778.9	2796.6	2833.0	2873.3	2904.5
15°	2775.1	2756.7	2774.7	2812.2	2854.6	2885.5
15.5°	2753.6	2733.4	2752.2	2790.7	2833.4	2865.7
16°	2730.3	2710.9	2729.6	2769.5	2812.9	2845.5
16.5°	2707.0	2686.6	2706.0	2748.0	2792.1	2824.7
17°	2682.7	2663.0	2682.4	2725.4	2770.6	2803.5
17.5°	2659.1	2638.0	2658.1	2701.5	2747.3	2781.3
18°	2634.8	2612.6	2633.8	2677.9	2724.4	2759.5
18.5°	2609.5	2586.9	2609.2	2653.6	2701.1	2736.9
19°	2584.5	2562.0	2583.1	2628.6	2676.8	2713.6
19.5°	2559.2	2535.9	2558.1	2604.0	2652.6	2690.0
20°	2533.8	2508.9	2532.8	2577.9	2627.6	2666.4
20.5°	2508.9	2482.5	2506.8	2551.5	2601.5	2641.8
21°	2481.8	2455.7	2480.4	2525.2	2575.5	2617.1



TEST NUMBER: P776418

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2398.8	2374.5	2398.8	2441.5	2493.9	2541.1
23°	2370.4	2346.4	2370.4	2413.1	2465.8	2515.1
23.5°	2342.2	2318.6	2343.3	2384.6	2437.3	2488.7
24°	2313.1	2290.2	2314.1	2355.4	2408.2	2461.3
24.5°	2283.9	2261.7	2286.0	2325.6	2379.7	2433.5
25°	2254.8	2232.2	2256.5	2295.7	2350.6	2405.4
25.5°	2224.9	2203.1	2227.4	2265.9	2320.7	2377.3
26°	2195.8	2173.6	2196.5	2234.3	2291.2	2349.2
26.5°	2165.2	2143.0	2165.2	2204.1	2261.0	2319.3
27°	2134.0	2111.8	2133.6	2171.1	2230.5	2290.2
27.5°	2102.0	2080.5	2101.0	2138.8	2199.2	2259.6
28°	2069.4	2046.2	2066.6	2105.9	2167.3	2229.4
28.5°	2035.4	2012.1	2034.0	2072.5	2135.0	2198.5
29°	2001.4	1977.1	1999.0	2038.9	2102.4	2167.0
29.5°	1966.7	1941.7	1963.2	2003.8	2069.1	2134.7
30°	1930.6	1904.5	1926.8	1969.1	2035.8	2102.0
30.5°	1893.8	1865.0	1890.0	1933.4	2000.7	2068.7
31°	1856.3	1825.4	1851.1	1897.6	1965.6	2034.7
31.5°	1818.1	1785.1	1812.2	1862.2	1930.2	1999.7
32°	1779.6	1743.8	1771.6	1824.0	1894.5	1963.2
32.5°	1739.3	1702.9	1731.3	1787.6	1858.0	1927.5
33°	1698.4	1660.2	1690.0	1750.1	1819.9	1890.0
33.5°	1656.7	1618.2	1648.7	1712.3	1782.0	1851.4
34°	1614.7	1576.2	1607.8	1673.0	1742.8	1810.8
34.5°	1571.7	1533.8	1565.8	1631.7	1703.6	1769.5
35°	1529.3	1492.2	1523.1	1590.4	1661.9	1726.5
35.5°	1486.6	1450.2	1482.1	1548.1	1620.6	1683.4
36°	1442.9	1408.9	1440.5	1505.0	1575.8	1637.3
36.5°	1399.5	1366.9	1398.5	1461.0	1530.4	1591.1
37°	1355.4	1324.2	1355.8	1412.4	1483.5	1543.6
37.5°	1311.0	1280.5	1312.4	1366.9	1437.7	1496.4
38°	1266.2	1237.4	1267.6	1318.6	1387.7	1447.4
38.5°	1220.1	1190.2	1221.1	1272.1	1338.4	1400.9
39°	1175.3	1143.0	1174.6	1245.4	1287.4	1352.3
39.5°	1129.5	1095.5	1128.1	1191.3	1229.8	1305.4
40°	1083.3	1048.2	1081.2	1136.8	1181.9	1258.6
40.5°	1037.5	1002.8	1034.7	1082.6	1134.0	1212.1
41°	992.0	959.0	986.1	1028.5	1086.4	1164.9
41.5°	948.6	915.7	939.3	980.6	1038.5	1118.4
42°	902.8	873.7	893.4	932.3	990.3	1071.5
42.5°	858.7	831.0	849.4	884.8	943.1	1024.6
43°	815.3	789.0	805.6	837.6	894.8	977.1
43.5°	771.3	746.6	760.8	791.4	848.3	930.6



TEST NUMBER: P776418

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	648.7	622.0	632.1	657.8	716.8	796.6
45.5°	609.5	583.1	589.7	616.1	676.2	754.3
46°	571.3	544.9	549.5	576.2	635.9	710.5
46.5°	535.9	506.4	509.9	537.7	597.7	667.5
47°	499.1	470.0	472.4	500.2	558.8	625.5
47.5°	465.5	434.2	436.7	464.8	522.7	584.5
48°	433.2	399.9	401.9	430.8	485.9	544.6
48.5°	401.9	366.2	369.7	398.5	450.9	506.4
49°	372.4	335.3	338.8	367.9	416.2	468.9
49.5°	344.3	305.4	309.6	338.4	383.9	432.8
50°	319.3	277.7	283.2	311.0	351.6	398.8
50.5°	294.7	252.7	257.9	284.6	321.8	365.2
51°	269.7	230.1	235.3	260.3	293.6	333.6
51.5°	245.1	209.6	214.2	236.7	266.9	302.3
52°	223.9	191.3	195.1	215.6	241.9	273.2
52.5°	203.4	174.6	177.0	195.4	218.3	245.4
53°	184.0	158.6	161.1	176.0	195.8	219.7
53.5°	166.6	144.0	145.4	157.6	174.9	195.4
54°	149.9	130.2	130.9	140.9	155.8	173.9
54.5°	134.0	117.7	118.4	125.0	138.1	154.1
55°	119.4	105.5	105.9	111.8	120.4	136.1
55.5°	104.8	93.4	93.7	98.6	106.9	118.7
56°	91.6	81.2	81.2	85.4	93.4	105.2
56.5°	79.5	69.1	68.7	72.5	79.8	91.3
57°	68.0	56.6	56.2	59.4	66.3	77.8
57.5°	55.5	44.1	44.1	46.5	53.5	64.2
58°	47.2	33.7	33.3	35.4	41.0	51.4
58.5°	38.9	25.3	24.6	26.0	30.5	38.9
59°	30.5	18.7	18.4	19.4	22.6	28.5
59.5°	22.2	14.2	13.9	14.6	16.7	20.8
60°	13.9	12.1	11.8	12.5	12.5	15.6
60.5°	10.8	9.7	9.7	10.4	10.8	11.5
61°	8.7	7.6	7.3	8.7	8.7	9.7
61.5°	6.9	5.6	5.2	6.6	6.9	8.0
62°	5.6	4.5	4.5	4.5	5.2	6.2
62.5°	4.5	3.8	3.5	3.8	4.2	4.5
63°	3.8	3.1	3.1	3.1	3.5	3.8
63.5°	3.1	2.8	2.4	2.4	2.8	3.1
64°	2.8	2.4	2.1	2.1	2.4	2.4
64.5°	2.4	2.1	1.7	1.7	2.1	2.1
65°	2.1	1.7	1.4	1.7	1.7	1.7
65.5°	1.7	1.4	1.4	1.4	1.4	1.7
66°	1.4	1.4	1.0	1.0	1.4	1.4



TEST NUMBER: P776418

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.0	1.0	0.7	0.7	1.0	1.0
68°	1.0	0.7	0.7	0.7	0.7	0.7
68.5°	0.7	0.7	0.7	0.7	0.7	0.7
69°	0.7	0.7	0.7	0.7	0.7	0.7
69.5°	0.7	0.7	0.7	0.7	0.7	0.7
70°	0.7	0.7	0.3	0.3	0.3	0.3
70.5°	0.7	0.3	0.3	0.3	0.3	0.3
71°	0.3	0.3	0.3	0.3	0.3	0.3
71.5°	0.3	0.3	0.3	0.3	0.3	0.3
72°	0.3	0.3	0.3	0.3	0.3	0.3
72.5°	0.3	0.3	0.3	0.3	0.3	0.3
73°	0.3	0.3	0.3	0.3	0.3	0.3
73.5°	0.3	0.3	0.3	0.3	0.3	0.3
74°	0.3	0.3	0.3	0.3	0.3	0.3
74.5°	0.3	0.3	0.3	0.3	0.3	0.3
75°	0.3	0.3	0.3	0.0	0.0	0.3
75.5°	0.3	0.0	0.0	0.0	0.0	0.0
76°	0.3	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	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
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: P776418

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-4000K

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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Scaled Data Report





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

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Scaled Data Report





21.5°	2591.8	2633.5	2667.5	2675.5	2667.8	2649.8	2611.9	2561.6	2522.0	2494.3	2472.4
22°	2566.8	2608.5	2642.5	2650.8	2644.2	2625.8	2586.6	2536.6	2494.6	2466.5	2443.9



44°	884.4	952.1	1010.4	1035.1	1055.9	1017.7	972.9	917.0	849.7	794.9	746.3
44.5°	840.0	906.3	960.8	987.5	1008.0	970.1	926.1	871.2	809.1	753.6	706.7



66.5°	1.0	1.4	1.7	1.7	1.7	1.7	1.7	1.7	1.4	1.4	1.4
67°	1.0	1.4	1.4	1.4	1.7	1.7	1.7	1.4	1.4	1.4	1.4



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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21.5°	2454.0	2429.0	2453.3	2497.4	2548.4	2591.8
22°	2426.6	2401.6	2426.2	2470.0	2521.3	2566.8



44°	729.6	703.9	717.1	745.9	803.9	884.4
44.5°	689.3	662.3	674.8	701.5	760.2	840.0

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66.5°	1.4	1.0	1.0	1.0	1.0	1.0
67°	1.0	1.0	1.0	1.0	1.0	1.0

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89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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(END OF REPORT)