

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: P776419

Luminaire Tested: HCDJBL3040CSD-HCD6TSQH-4000lm-5000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776419  
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-5000K  
Description: 6 INCH SQUARE MEDIUM HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

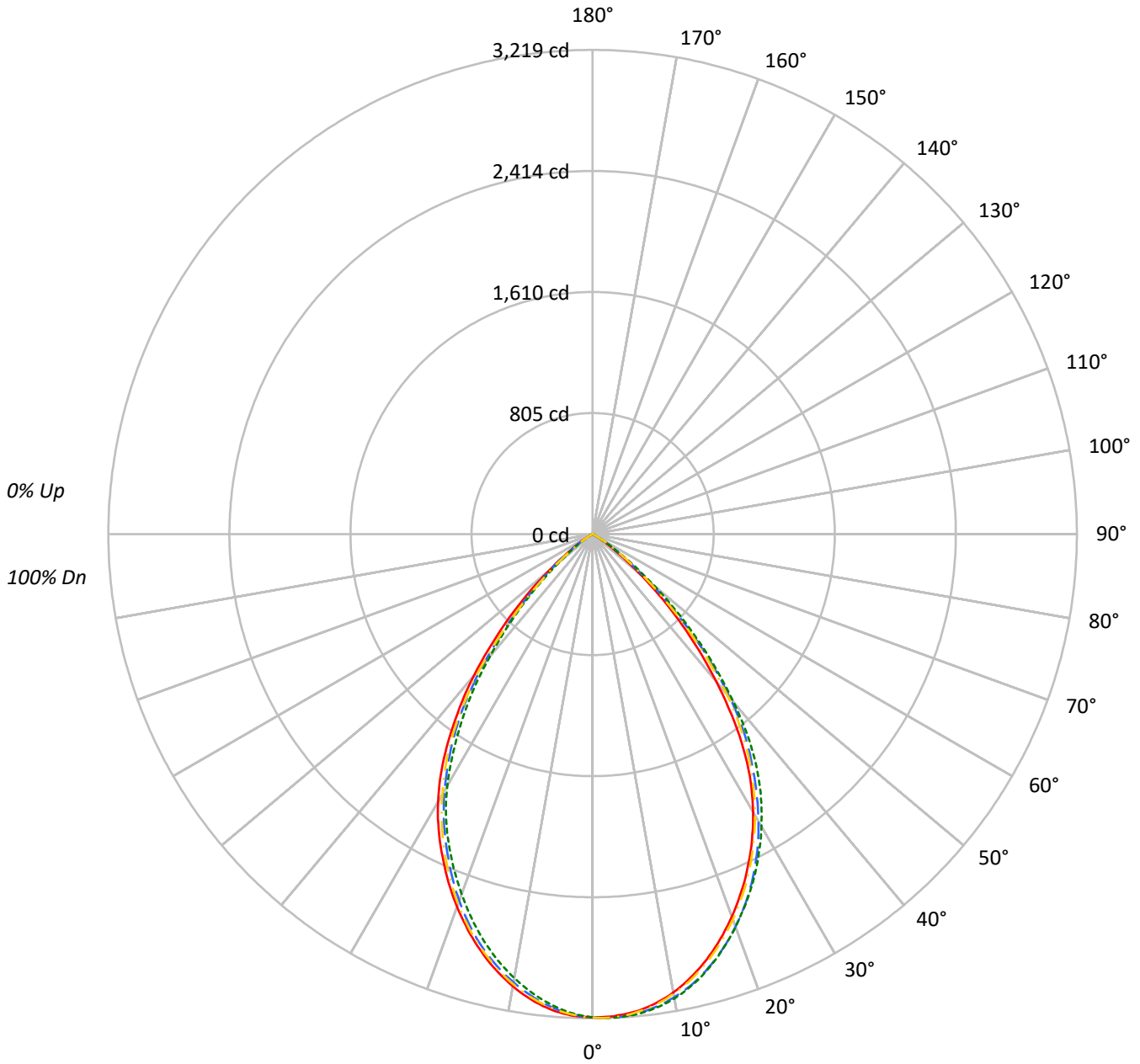
Lumens per Lamp: N/A  
Luminaire Lumens: 4041.8 lumens  
Efficiency: N/A  
Efficacy: 105.0 lumens/watt  
Spacing Criteria (0/90/45): 1.02 / 1.02 / 1.06  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (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	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°	176187	176187	176187	176187
5°	175401	176469	174609	172842
10°	172236	174507	169942	166903
15°	166187	169564	162850	158769
20°	157858	162093	153768	148530
25°	147650	153190	142920	137022
30°	135033	142054	130083	122342
35°	117249	127388	111427	101342
40°	91400	104131	87850	76128
45°	62673	75589	60270	48935
50°	34515	45696	33014	24033
55°	13199	20061	14279	10236
60°	1743	5131	3432	1349
65°	233	415	324	233
70°	64	112	112	112
75°	85	85	85	85
80°	0	0	0	0
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 75589 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	300.0	7.4
10°-20°	813.4	20.1
20°-30°	1100.3	27.2
30°-40°	1056.3	26.1
40°-50°	615.2	15.2
50°-60°	151.4	3.7
60°-70°	4.9	0.1
70°-80°	0.3	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°	2213.7	54.8
0°-40°	3270.0	80.9
0°-60°	4036.6	99.9
0°-90°	4041.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4041.8	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3214	3214	3214	3214	3214	
5°	3187	3207	3173	3141	3187	301
15°	2928	2988	2869	2798	2928	821
25°	2441	2533	2363	2265	2441	1118
35°	1752	1904	1665	1514	1752	1078
45°	808	975	777	631	808	624
55°	138	210	149	107	138	142
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°	3213.9	3213.9	3213.9	3213.9	3213.9	3213.9	3213.9	3213.9	3213.9	3213.9	3213.9
0.5°	3213.1	3213.5	3216.0	3218.1	3214.9	3216.3	3217.0	3215.6	3212.4	3211.0	3211.4
1°	3212.4	3213.9	3217.4	3219.8	3217.0	3217.7	3217.7	3215.3	3211.0	3208.2	3208.6
1.5°	3211.4	3213.9	3217.7	3220.9	3218.1	3218.8	3217.4	3214.2	3209.6	3205.4	3204.7
2°	3209.6	3213.5	3217.7	3220.9	3218.8	3218.8	3217.0	3212.4	3206.1	3201.9	3200.1
2.5°	3209.6	3212.1	3216.7	3220.2	3218.1	3217.7	3215.3	3210.0	3203.3	3197.3	3194.5
3°	3204.3	3210.0	3215.6	3219.1	3217.4	3216.7	3212.8	3206.1	3198.4	3192.0	3188.1
3.5°	3201.2	3207.5	3213.5	3217.4	3215.6	3213.9	3209.6	3202.2	3193.4	3186.0	3182.1
4°	3197.3	3204.7	3210.7	3214.9	3213.1	3211.4	3206.1	3196.9	3187.8	3179.7	3173.7
4.5°	3192.4	3201.2	3207.2	3211.7	3210.3	3207.9	3201.2	3191.3	3181.4	3171.6	3165.6
5°	3187.4	3196.6	3203.3	3208.2	3206.8	3203.6	3195.9	3185.0	3173.0	3163.1	3156.4
5.5°	3182.9	3191.3	3199.1	3203.6	3202.9	3199.1	3189.5	3177.6	3164.2	3154.0	3146.2
6°	3174.8	3185.3	3193.8	3198.7	3198.4	3193.4	3182.5	3168.8	3155.0	3144.1	3135.7
6.5°	3167.7	3179.3	3187.8	3193.4	3192.7	3187.1	3175.8	3159.3	3144.8	3133.5	3123.7
7°	3159.6	3171.9	3180.7	3187.4	3186.7	3180.7	3167.0	3149.7	3134.2	3121.9	3112.4
7.5°	3150.4	3163.8	3173.3	3180.0	3179.7	3173.3	3158.2	3138.5	3121.9	3109.2	3099.0
8°	3140.6	3155.0	3165.6	3171.9	3172.3	3165.6	3148.7	3127.2	3109.6	3096.2	3086.0
8.5°	3130.4	3145.5	3156.8	3163.5	3164.2	3156.4	3138.1	3115.2	3096.6	3082.8	3071.5
9°	3119.1	3134.9	3147.6	3154.3	3155.0	3146.9	3127.6	3102.5	3082.5	3068.7	3057.8
9.5°	3106.8	3124.4	3137.1	3144.5	3145.5	3137.1	3115.2	3088.8	3068.7	3053.6	3042.3
10°	3094.1	3112.8	3126.8	3133.9	3134.9	3125.8	3102.9	3075.1	3052.9	3038.4	3026.5
10.5°	3080.4	3100.1	3115.2	3122.6	3123.3	3114.2	3089.9	3059.9	3037.4	3022.6	3010.3
11°	3066.3	3087.4	3104.0	3110.6	3111.3	3101.1	3076.1	3044.8	3020.8	3006.0	2993.7
11.5°	3051.5	3073.7	3090.6	3097.6	3098.3	3088.1	3062.0	3028.9	3003.2	2989.1	2976.4
12°	3034.9	3059.2	3077.9	3083.9	3084.6	3073.7	3046.5	3012.4	2986.0	2971.5	2958.5
12.5°	3018.7	3044.1	3063.1	3070.1	3070.1	3058.9	3030.7	2995.5	2968.0	2953.2	2940.5
13°	3002.2	3028.9	3049.0	3056.0	3056.0	3043.7	3015.2	2978.2	2949.7	2934.5	2921.8
13.5°	2984.2	3012.0	3033.5	3039.8	3039.1	3026.8	2997.6	2959.9	2929.9	2915.5	2902.5
14°	2966.6	2995.5	3017.3	3024.0	3022.6	3010.3	2980.3	2941.2	2910.6	2895.4	2882.4
14.5°	2947.6	2977.5	3000.4	3007.4	3004.6	2991.9	2962.4	2921.5	2890.5	2874.3	2862.0
15°	2928.2	2959.9	2982.8	2990.2	2987.7	2974.0	2943.0	2901.8	2869.4	2852.8	2840.8
15.5°	2908.1	2940.9	2964.8	2972.9	2968.7	2955.3	2923.3	2881.3	2847.9	2832.0	2819.0
16°	2887.7	2921.1	2946.1	2953.5	2950.0	2935.9	2903.9	2860.6	2826.4	2809.8	2796.1
16.5°	2866.5	2901.4	2926.4	2934.5	2930.3	2915.5	2883.1	2839.1	2804.2	2786.6	2772.8
17°	2845.1	2881.0	2907.0	2915.1	2909.5	2895.1	2862.3	2817.2	2780.9	2762.6	2749.2
17.5°	2822.5	2860.2	2886.6	2895.4	2889.1	2873.9	2840.5	2794.0	2758.1	2738.7	2724.2
18°	2800.3	2838.4	2865.8	2874.3	2867.2	2852.5	2819.0	2771.4	2733.4	2714.0	2698.9
18.5°	2777.4	2816.2	2844.0	2853.2	2845.4	2830.6	2796.1	2747.5	2709.4	2688.7	2673.9
19°	2753.8	2793.6	2822.9	2831.7	2823.6	2808.4	2772.8	2723.5	2685.1	2664.0	2646.7
19.5°	2729.9	2770.4	2800.0	2809.5	2801.4	2785.2	2749.2	2698.9	2661.2	2637.2	2619.6
20°	2705.9	2747.1	2777.8	2786.9	2778.5	2761.2	2726.0	2674.9	2635.8	2610.8	2592.5
20.5°	2680.9	2722.5	2754.5	2762.6	2754.2	2738.0	2701.3	2649.6	2610.1	2584.0	2565.4
21°	2655.9	2697.8	2730.9	2739.4	2730.6	2713.7	2676.0	2624.6	2584.7	2557.6	2538.3



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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°	2578.8	2621.0	2656.6	2664.7	2660.1	2637.9	2599.2	2549.2	2504.4	2474.5	2449.8
23°	2552.3	2594.3	2630.5	2639.0	2635.1	2611.2	2573.8	2522.0	2475.9	2445.6	2420.3
23.5°	2525.6	2566.8	2604.1	2612.6	2610.1	2584.4	2548.1	2494.9	2448.1	2416.0	2389.6
24°	2497.7	2539.7	2576.3	2585.5	2585.1	2557.6	2520.6	2467.5	2419.5	2386.8	2359.3
24.5°	2469.6	2511.8	2548.8	2558.3	2560.1	2535.1	2492.1	2439.6	2392.1	2357.2	2328.3
25°	2441.0	2483.7	2520.6	2530.5	2532.6	2507.3	2463.2	2411.8	2362.8	2327.6	2298.4
25.5°	2412.5	2453.7	2492.1	2501.6	2505.1	2478.7	2434.3	2382.9	2334.0	2297.3	2267.4
26°	2384.0	2425.2	2462.5	2473.4	2478.0	2450.9	2405.1	2354.7	2305.1	2267.4	2236.7
26.5°	2353.7	2395.9	2432.2	2444.2	2450.5	2421.3	2374.8	2325.5	2275.8	2237.1	2205.4
27°	2324.1	2364.9	2402.3	2414.6	2422.7	2392.8	2345.2	2296.6	2245.2	2206.8	2174.4
27.5°	2293.1	2333.6	2370.9	2384.7	2393.5	2362.8	2315.3	2267.0	2216.0	2175.8	2142.3
28°	2262.4	2302.2	2338.5	2353.7	2364.2	2333.2	2285.0	2236.7	2185.3	2143.0	2109.2
28.5°	2231.1	2270.5	2306.1	2322.7	2335.4	2303.0	2254.3	2206.8	2154.7	2109.9	2075.1
29°	2199.0	2238.1	2273.0	2291.0	2305.8	2272.7	2222.6	2175.4	2122.6	2077.2	2040.9
29.5°	2166.3	2204.3	2238.8	2258.9	2274.8	2242.4	2190.9	2142.7	2089.1	2043.0	2004.6
30°	2133.2	2170.2	2204.7	2226.2	2244.1	2211.4	2158.5	2109.9	2055.0	2008.5	1968.7
30.5°	2099.4	2135.6	2170.2	2191.6	2212.8	2179.3	2125.8	2075.8	2021.2	1972.2	1932.0
31°	2064.8	2100.4	2133.5	2158.5	2182.1	2147.3	2092.0	2041.6	1984.9	1935.9	1894.7
31.5°	2029.3	2064.5	2098.7	2123.7	2149.0	2114.9	2057.8	2006.4	1947.9	1899.3	1857.0
32°	1992.3	2027.1	2061.7	2088.1	2116.3	2081.7	2023.6	1970.4	1909.9	1861.6	1818.3
32.5°	1956.0	1991.6	2025.0	2051.8	2083.2	2047.6	1988.4	1933.8	1871.5	1823.2	1780.2
33°	1918.0	1953.9	1988.8	2016.2	2049.3	2013.1	1952.8	1895.4	1832.0	1783.4	1742.2
33.5°	1878.9	1916.2	1953.2	1979.9	2013.8	1978.2	1916.9	1856.7	1791.5	1743.6	1703.8
34°	1837.6	1877.4	1915.5	1943.3	1978.9	1942.3	1880.3	1817.6	1750.6	1704.1	1664.7
34.5°	1795.7	1839.4	1877.8	1906.3	1940.9	1904.6	1844.0	1777.4	1707.3	1661.9	1624.5
35°	1752.0	1799.6	1839.4	1867.6	1903.5	1867.2	1806.6	1736.2	1665.0	1619.6	1584.7
35.5°	1708.4	1759.8	1802.8	1829.2	1864.1	1829.5	1769.3	1695.3	1623.1	1577.7	1543.9
36°	1661.5	1719.6	1762.6	1790.8	1824.6	1791.1	1730.9	1654.1	1580.9	1535.1	1501.6
36.5°	1614.7	1677.0	1724.9	1752.4	1782.3	1751.3	1691.1	1612.2	1537.9	1491.7	1457.9
37°	1566.4	1633.7	1684.8	1711.9	1739.4	1710.1	1650.3	1570.6	1493.5	1448.1	1412.1
37.5°	1518.5	1588.6	1643.6	1670.3	1695.0	1667.9	1609.0	1527.7	1451.6	1403.7	1367.4
38°	1468.8	1542.5	1600.6	1625.6	1649.2	1623.5	1566.1	1485.0	1407.6	1358.2	1320.2
38.5°	1421.6	1496.3	1557.6	1583.7	1600.9	1578.7	1522.4	1442.1	1363.9	1312.5	1273.4
39°	1372.3	1448.4	1512.2	1537.9	1553.4	1532.6	1476.9	1398.8	1319.1	1266.3	1226.5
39.5°	1324.8	1400.5	1466.0	1492.1	1504.4	1484.7	1430.8	1354.0	1274.8	1219.8	1177.9
40°	1277.2	1349.8	1417.8	1444.5	1455.1	1434.3	1383.6	1308.2	1227.6	1171.9	1129.3
40.5°	1230.0	1300.5	1371.3	1395.9	1406.5	1384.0	1336.4	1262.4	1181.4	1124.7	1079.6
41°	1182.1	1254.0	1323.7	1346.3	1357.9	1332.5	1285.7	1216.3	1134.2	1077.9	1030.3
41.5°	1134.9	1205.7	1275.1	1297.0	1311.0	1281.8	1236.0	1170.9	1087.0	1033.1	981.7
42°	1087.4	1157.1	1225.1	1267.7	1263.1	1230.7	1185.6	1122.6	1039.5	986.3	933.8
42.5°	1039.8	1108.9	1175.1	1214.2	1217.0	1180.0	1136.0	1075.0	995.4	940.8	887.6
43°	991.6	1060.2	1125.1	1159.6	1170.1	1130.0	1086.7	1026.4	950.0	895.7	843.3
43.5°	944.4	1013.4	1075.4	1105.3	1120.5	1081.0	1037.4	979.2	907.4	851.4	799.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	808.4	872.9	925.0	953.9	975.0	935.9	890.8	838.0	777.4	721.7	676.0
45.5°	765.4	826.0	875.7	907.0	927.1	887.3	842.9	794.0	734.8	680.5	637.2
46°	721.0	780.6	826.7	860.2	881.0	840.8	796.4	748.5	693.2	639.7	599.5
46.5°	677.4	735.5	778.1	813.7	836.2	795.0	749.6	704.5	650.9	602.0	563.2
47°	634.7	690.7	731.6	766.8	791.5	750.3	704.5	659.7	610.1	562.9	527.7
47.5°	593.2	646.7	686.9	721.4	747.1	706.6	660.5	617.5	570.6	527.0	494.2
48°	552.7	604.1	642.8	676.7	703.4	665.4	617.8	574.9	532.6	491.7	462.1
48.5°	513.9	562.9	599.5	633.3	660.5	625.6	577.0	534.4	495.3	459.0	431.8
49°	475.9	522.4	558.7	590.7	617.8	585.8	536.8	494.5	457.9	426.2	402.6
49.5°	439.2	482.9	518.5	549.5	575.6	547.4	499.8	456.9	422.0	395.2	373.7
50°	404.7	443.8	479.8	507.9	535.8	509.0	463.2	420.9	387.1	366.0	347.3
50.5°	370.6	405.8	441.7	468.5	496.7	472.7	428.7	386.8	354.4	340.3	323.0
51°	338.5	370.6	406.5	430.4	458.6	437.1	395.9	354.7	325.8	314.9	298.7
51.5°	306.8	337.1	372.0	394.5	423.0	403.3	364.6	327.6	297.6	289.2	274.7
52°	277.2	305.7	339.6	360.3	388.5	370.2	338.5	300.5	269.1	263.8	250.4
52.5°	249.0	275.5	307.9	326.9	355.1	342.0	312.1	273.0	240.9	238.5	227.9
53°	223.0	248.0	278.6	295.5	325.1	313.5	285.7	245.9	218.7	216.6	207.8
53.5°	198.3	222.6	250.1	266.3	295.2	285.3	259.2	223.0	198.7	196.9	188.1
54°	176.5	199.0	224.4	239.5	264.9	256.8	232.8	202.2	180.7	178.2	170.1
54.5°	156.4	176.8	199.0	214.2	235.3	228.6	211.3	183.2	164.5	160.3	151.8
55°	138.1	157.1	176.5	191.3	209.9	206.8	190.9	166.3	149.4	144.1	135.3
55.5°	120.5	137.7	155.0	169.8	187.0	184.2	171.5	149.4	134.6	127.9	119.1
56°	106.7	120.1	136.0	149.7	165.9	164.5	152.9	134.2	120.5	113.1	104.3
56.5°	92.6	106.0	119.4	130.7	146.5	145.5	135.3	119.8	107.1	99.0	90.2
57°	78.9	92.3	105.0	115.5	128.6	127.9	119.1	105.7	94.0	85.9	77.5
57.5°	65.2	78.2	90.2	100.7	111.3	111.0	103.6	92.3	82.1	74.0	65.5
58°	52.1	64.1	75.7	85.6	95.8	95.5	89.5	80.0	70.4	61.6	52.5
58.5°	39.5	50.4	61.3	70.8	81.7	81.4	76.4	68.0	58.1	52.5	44.7
59°	28.9	38.0	47.6	56.0	68.0	68.7	63.4	54.9	49.3	43.3	36.6
59.5°	21.1	27.8	34.9	41.9	57.4	59.2	53.5	46.5	40.5	33.8	28.9
60°	15.9	20.1	25.4	30.6	46.8	49.7	44.0	38.0	31.3	24.7	21.1
60.5°	11.6	15.1	18.3	21.8	36.3	40.2	34.2	29.6	22.5	15.5	13.0
61°	9.9	13.0	13.7	16.2	25.7	30.6	24.3	21.1	14.1	12.0	10.2
61.5°	8.1	10.9	11.6	12.0	15.1	21.1	14.8	12.7	10.6	9.5	8.1
62°	6.3	8.8	9.5	10.2	11.3	11.6	11.3	9.5	8.1	7.4	6.7
62.5°	4.6	6.7	7.4	8.5	8.8	8.8	8.5	7.7	6.3	6.0	5.3
63°	3.9	4.9	5.6	6.7	7.0	7.0	6.7	6.0	5.3	4.9	4.6
63.5°	3.2	3.9	4.6	4.9	5.6	5.6	5.3	4.9	4.2	4.2	3.9
64°	2.5	3.2	3.9	4.2	4.6	4.6	4.6	4.2	3.5	3.5	3.2
64.5°	2.1	2.8	3.2	3.5	3.9	3.9	3.5	3.5	2.8	2.8	2.8
65°	1.8	2.5	2.8	2.8	3.2	3.2	3.2	2.8	2.5	2.5	2.5
65.5°	1.8	2.1	2.1	2.5	2.8	2.5	2.5	2.5	2.1	2.1	2.1
66°	1.4	1.8	2.1	2.1	2.1	2.1	2.1	2.1	1.8	1.8	1.8





TEST NUMBER: P776419

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.1	1.1	1.4	1.4	1.4	1.4	1.4	1.4	1.1	1.1	1.1
68°	0.7	1.1	1.1	1.1	1.4	1.1	1.4	1.1	1.1	1.1	1.1
68.5°	0.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
69°	0.7	0.7	1.1	1.1	1.1	1.1	1.1	1.1	0.7	0.7	0.7
69.5°	0.7	0.7	0.7	0.7	1.1	0.7	0.7	0.7	0.7	0.7	0.7
70°	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
70.5°	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
71°	0.4	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
71.5°	0.4	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.4	0.4	0.4
72°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
73°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
73.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
74°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
74.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
75.5°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
76°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
76.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.4
77°	0.0	0.0	0.0	0.4	0.4	0.4	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: P776419

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P776419

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3213.9	3213.9	3213.9	3213.9	3213.9	3213.9
0.5°	3212.8	3208.9	3211.0	3212.8	3213.9	3213.1
1°	3209.3	3204.7	3207.2	3210.0	3211.7	3212.4
1.5°	3204.7	3199.8	3202.9	3206.1	3210.0	3211.4
2°	3199.1	3193.8	3197.3	3201.9	3206.1	3209.6
2.5°	3193.1	3187.1	3190.6	3196.9	3202.6	3209.6
3°	3186.0	3179.3	3183.9	3190.6	3199.1	3204.3
3.5°	3178.3	3170.9	3175.8	3184.6	3194.1	3201.2
4°	3170.2	3162.1	3167.4	3177.6	3189.2	3197.3
4.5°	3161.0	3151.9	3158.2	3169.8	3182.9	3192.4
5°	3150.8	3140.9	3148.0	3161.0	3176.2	3187.4
5.5°	3139.9	3130.0	3137.1	3151.9	3168.4	3182.9
6°	3128.3	3118.0	3126.1	3142.3	3160.7	3174.8
6.5°	3115.9	3104.7	3113.8	3131.4	3151.9	3167.7
7°	3103.2	3092.0	3101.1	3120.2	3142.7	3159.6
7.5°	3089.5	3077.5	3087.7	3108.9	3132.5	3150.4
8°	3075.8	3062.4	3074.0	3096.2	3121.6	3140.6
8.5°	3061.0	3046.9	3059.2	3082.8	3109.2	3130.4
9°	3046.2	3031.4	3043.7	3069.1	3096.9	3119.1
9.5°	3029.6	3014.8	3028.2	3054.3	3083.5	3106.8
10°	3013.4	2998.3	3011.7	3039.5	3069.8	3094.1
10.5°	2996.2	2980.0	2995.1	3023.6	3055.3	3080.4
11°	2978.6	2961.6	2977.5	3006.7	3040.2	3066.3
11.5°	2960.6	2943.3	2959.2	2989.5	3024.3	3051.5
12°	2941.6	2923.6	2940.5	2971.9	3007.4	3034.9
12.5°	2922.5	2904.2	2921.5	2953.2	2990.2	3018.7
13°	2902.5	2883.8	2901.4	2934.5	2972.9	3002.2
13.5°	2882.0	2863.0	2880.6	2914.8	2954.2	2984.2
14°	2860.6	2841.9	2859.5	2895.4	2935.6	2966.6
14.5°	2838.7	2820.0	2838.0	2875.0	2915.9	2947.6
15°	2816.2	2797.5	2815.8	2853.9	2896.8	2928.2
15.5°	2794.3	2773.9	2792.9	2832.0	2875.3	2908.1
16°	2770.7	2751.0	2770.0	2810.5	2854.6	2887.7
16.5°	2747.1	2726.3	2746.1	2788.7	2833.4	2866.5
17°	2722.5	2702.4	2722.1	2765.8	2811.6	2845.1
17.5°	2698.5	2677.0	2697.5	2741.5	2788.0	2822.5
18°	2673.9	2651.3	2672.8	2717.5	2764.7	2800.3
18.5°	2648.2	2625.3	2647.8	2692.9	2741.1	2777.4
19°	2622.8	2599.9	2621.4	2667.5	2716.5	2753.8
19.5°	2597.1	2573.5	2596.0	2642.5	2691.8	2729.9
20°	2571.4	2546.0	2570.3	2616.1	2666.5	2705.9
20.5°	2546.0	2519.2	2543.9	2589.3	2640.0	2680.9
21°	2518.5	2492.1	2517.1	2562.6	2613.6	2655.9

TEST NUMBER: P776419

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2434.3	2409.7	2434.3	2477.7	2530.9	2578.8
23°	2405.5	2381.2	2405.5	2448.8	2502.3	2552.3
23.5°	2376.9	2353.0	2378.0	2419.9	2473.4	2525.6
24°	2347.3	2324.1	2348.4	2390.3	2443.9	2497.7
24.5°	2317.7	2295.2	2319.9	2360.0	2415.0	2469.6
25°	2288.2	2265.3	2289.9	2329.7	2385.4	2441.0
25.5°	2257.9	2235.7	2260.3	2299.4	2355.1	2412.5
26°	2228.3	2205.7	2229.0	2267.4	2325.1	2384.0
26.5°	2197.3	2174.7	2197.3	2236.7	2294.5	2353.7
27°	2165.6	2143.0	2165.2	2203.3	2263.5	2324.1
27.5°	2133.2	2111.3	2132.1	2170.5	2231.8	2293.1
28°	2100.1	2076.5	2097.2	2137.0	2199.4	2262.4
28.5°	2065.5	2041.9	2064.1	2103.2	2166.6	2231.1
29°	2031.0	2006.4	2028.6	2069.1	2133.5	2199.0
29.5°	1995.8	1970.4	1992.3	2033.5	2099.7	2166.3
30°	1959.2	1932.7	1955.3	1998.3	2065.9	2133.2
30.5°	1921.8	1892.6	1918.0	1962.0	2030.3	2099.4
31°	1883.8	1852.4	1878.5	1925.7	1994.7	2064.8
31.5°	1845.0	1811.6	1839.1	1889.8	1958.8	2029.3
32°	1805.9	1769.7	1797.8	1851.0	1922.5	1992.3
32.5°	1765.1	1728.1	1757.0	1814.0	1885.5	1956.0
33°	1723.5	1684.8	1715.1	1776.0	1846.8	1918.0
33.5°	1681.2	1642.1	1673.1	1737.6	1808.4	1878.9
34°	1638.6	1599.5	1631.6	1697.8	1768.6	1837.6
34.5°	1594.9	1556.6	1589.0	1655.9	1728.8	1795.7
35°	1552.0	1514.3	1545.6	1614.0	1686.5	1752.0
35.5°	1508.6	1471.7	1504.1	1571.0	1644.6	1708.4
36°	1464.3	1429.7	1461.8	1527.3	1599.2	1661.5
36.5°	1420.2	1387.1	1419.2	1482.6	1553.0	1614.7
37°	1375.5	1343.8	1375.9	1433.3	1505.5	1566.4
37.5°	1330.4	1299.4	1331.8	1387.1	1459.0	1518.5
38°	1285.0	1255.7	1286.4	1338.2	1408.3	1468.8
38.5°	1238.1	1207.8	1239.2	1291.0	1358.2	1421.6
39°	1192.7	1159.9	1192.0	1263.8	1306.5	1372.3
39.5°	1146.2	1111.7	1144.8	1208.9	1248.0	1324.8
40°	1099.3	1063.8	1097.2	1153.6	1199.4	1277.2
40.5°	1052.8	1017.6	1050.0	1098.6	1150.8	1230.0
41°	1006.7	973.2	1000.7	1043.7	1102.5	1182.1
41.5°	962.7	929.2	953.2	995.1	1053.9	1134.9
42°	916.2	886.6	906.7	946.1	1004.9	1087.4
42.5°	871.4	843.3	861.9	897.9	957.0	1039.8
43°	827.4	800.6	817.6	850.0	908.1	991.6
43.5°	782.7	757.7	772.1	803.1	860.9	944.4



TEST NUMBER: P776419

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	658.3	631.2	641.4	667.5	727.4	808.4
45.5°	618.5	591.8	598.5	625.2	686.2	765.4
46°	579.8	553.0	557.6	584.7	645.3	721.0
46.5°	543.9	513.9	517.4	545.6	606.6	677.4
47°	506.5	476.9	479.4	507.6	567.1	634.7
47.5°	472.4	440.7	443.1	471.7	530.5	593.2
48°	439.6	405.8	407.9	437.1	493.1	552.7
48.5°	407.9	371.6	375.1	404.4	457.6	513.9
49°	378.0	340.3	343.8	373.4	422.3	475.9
49.5°	349.4	310.0	314.2	343.4	389.6	439.2
50°	324.1	281.8	287.4	315.6	356.8	404.7
50.5°	299.1	256.4	261.7	288.8	326.5	370.6
51°	273.7	233.5	238.8	264.2	298.0	338.5
51.5°	248.7	212.8	217.3	240.2	270.9	306.8
52°	227.2	194.1	198.0	218.7	245.5	277.2
52.5°	206.4	177.2	179.6	198.3	221.6	249.0
53°	186.7	161.0	163.4	178.6	198.7	223.0
53.5°	169.1	146.2	147.6	159.9	177.5	198.3
54°	152.2	132.1	132.8	143.0	158.2	176.5
54.5°	136.0	119.4	120.1	126.8	140.2	156.4
55°	121.2	107.1	107.4	113.4	122.2	138.1
55.5°	106.4	94.8	95.1	100.0	108.5	120.5
56°	93.0	82.4	82.4	86.7	94.8	106.7
56.5°	80.7	70.1	69.7	73.6	81.0	92.6
57°	69.0	57.4	57.1	60.2	67.3	78.9
57.5°	56.4	44.7	44.7	47.2	54.2	65.2
58°	47.9	34.2	33.8	35.9	41.6	52.1
58.5°	39.5	25.7	25.0	26.4	31.0	39.5
59°	31.0	19.0	18.7	19.7	22.9	28.9
59.5°	22.5	14.4	14.1	14.8	16.9	21.1
60°	14.1	12.3	12.0	12.7	12.7	15.9
60.5°	10.9	9.9	9.9	10.6	10.9	11.6
61°	8.8	7.7	7.4	8.8	8.8	9.9
61.5°	7.0	5.6	5.3	6.7	7.0	8.1
62°	5.6	4.6	4.6	4.6	5.3	6.3
62.5°	4.6	3.9	3.5	3.9	4.2	4.6
63°	3.9	3.2	3.2	3.2	3.5	3.9
63.5°	3.2	2.8	2.5	2.5	2.8	3.2
64°	2.8	2.5	2.1	2.1	2.5	2.5
64.5°	2.5	2.1	1.8	1.8	2.1	2.1
65°	2.1	1.8	1.4	1.8	1.8	1.8
65.5°	1.8	1.4	1.4	1.4	1.4	1.8
66°	1.4	1.4	1.1	1.1	1.4	1.4



TEST NUMBER: P776419

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.1	1.1	0.7	0.7	1.1	1.1
68°	1.1	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	0.4	0.4	0.4	0.4
70.5°	0.7	0.4	0.4	0.4	0.4	0.4
71°	0.4	0.4	0.4	0.4	0.4	0.4
71.5°	0.4	0.4	0.4	0.4	0.4	0.4
72°	0.4	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4	0.4
73°	0.4	0.4	0.4	0.4	0.4	0.4
73.5°	0.4	0.4	0.4	0.4	0.4	0.4
74°	0.4	0.4	0.4	0.4	0.4	0.4
74.5°	0.4	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.0	0.0	0.4
75.5°	0.4	0.0	0.0	0.0	0.0	0.0
76°	0.4	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: P776419

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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Scaled Data Report





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

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21.5°	2630.2	2672.5	2707.0	2715.1	2707.3	2689.0	2650.6	2599.5	2559.4	2531.2	2509.0
22°	2604.8	2647.1	2681.6	2690.1	2683.4	2664.7	2624.9	2574.2	2531.6	2503.0	2480.1



44°	897.5	966.2	1025.4	1050.4	1071.5	1032.8	987.3	930.6	862.3	806.6	757.3
44.5°	852.4	919.7	975.0	1002.1	1022.9	984.5	939.8	884.1	821.1	764.7	717.2



66.5°	1.1	1.4	1.8	1.8	1.8	1.8	1.8	1.8	1.4	1.4	1.4
67°	1.1	1.4	1.4	1.4	1.8	1.8	1.8	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°	2490.3	2465.0	2489.6	2534.4	2586.2	2630.2
22°	2462.5	2437.2	2462.2	2506.5	2558.7	2604.8



44°	740.4	714.3	727.7	757.0	815.8	897.5
44.5°	699.6	672.1	684.8	711.9	771.4	852.4

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66.5°	1.4	1.1	1.1	1.1	1.1	1.1
67°	1.1	1.1	1.1	1.1	1.1	1.1

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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)