

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: P776728

Luminaire Tested: HCDJBL54050CSD-HCD6TSQH-5000lm-4000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776728  
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: HCDJBL54050CSD-HCD6TSQH-5000lm-4000K  
Description: 6 INCH SQUARE MEDIUM HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

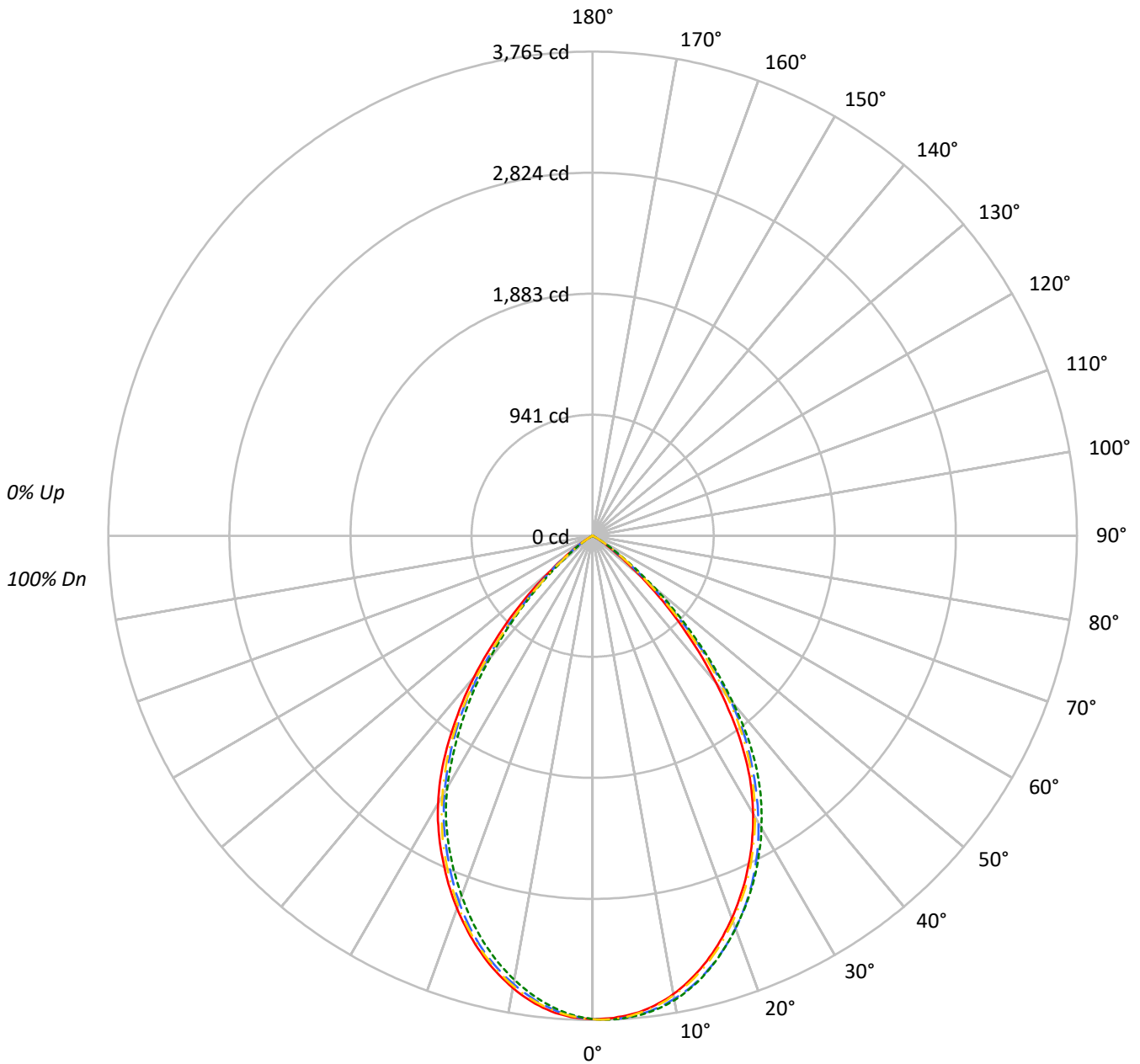
Lumens per Lamp: N/A  
Luminaire Lumens: 4727.3 lumens  
Efficiency: N/A  
Efficacy: 98.5 lumens/watt  
Spacing Criteria (0/90/45): 1.02 / 1.02 / 1.06  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
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



TEST NUMBER: P776728  
CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-5000lm-4000K

### 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°	206064	206064	206064	206064
5°	205150	206399	204226	202162
10°	201449	204110	198766	195209
15°	194371	198321	190466	185699
20°	184635	189582	179851	173720
25°	172691	179176	167163	160261
30°	157936	166152	152144	143098
35°	137139	148998	130326	118527
40°	106907	121792	102750	89038
45°	73302	88412	70488	57238
50°	40374	53440	38617	28110
55°	15436	23464	16697	11966
60°	2028	6008	4024	1579
65°	272	480	376	272
70°	64	128	128	128
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: 88412 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	350.9	7.4
10°-20°	951.3	20.1
20°-30°	1286.9	27.2
30°-40°	1235.5	26.1
40°-50°	719.5	15.2
50°-60°	177.1	3.7
60°-70°	5.7	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°	2589.2	54.8
0°-40°	3824.7	80.9
0°-60°	4721.3	99.9
0°-90°	4727.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4727.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3759	3759	3759	3759	3759	
5°	3728	3751	3711	3674	3728	352
15°	3425	3494	3356	3272	3425	961
25°	2855	2962	2764	2650	2855	1308
35°	2049	2226	1947	1771	2049	1261
45°	946	1140	909	738	946	730
55°	162	246	175	125	162	166
65°	2	4	3	2	2	4
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P776728

CATALOG NUMBER: HCDJBL4050CSD-HCD6TSQH-5000lm-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3758.9	3758.9	3758.9	3758.9	3758.9	3758.9	3758.9	3758.9	3758.9	3758.9	3758.9
0.5°	3758.1	3758.5	3761.4	3763.9	3760.2	3761.8	3762.6	3761.0	3757.3	3755.6	3756.1
1°	3757.3	3758.9	3763.1	3765.9	3762.6	3763.5	3763.5	3760.6	3755.6	3752.4	3752.8
1.5°	3756.1	3758.9	3763.5	3767.2	3763.9	3764.7	3763.1	3759.4	3754.0	3749.1	3748.2
2°	3754.0	3758.5	3763.5	3767.2	3764.7	3764.7	3762.6	3757.3	3749.9	3744.9	3742.9
2.5°	3754.0	3756.9	3762.2	3766.4	3763.9	3763.5	3760.6	3754.4	3746.6	3739.6	3736.3
3°	3747.8	3754.4	3761.0	3765.1	3763.1	3762.2	3757.7	3749.9	3740.8	3733.4	3728.9
3.5°	3744.1	3751.5	3758.5	3763.1	3761.0	3758.9	3754.0	3745.3	3735.0	3726.4	3721.9
4°	3739.6	3748.2	3755.2	3760.2	3758.1	3756.1	3749.9	3739.2	3728.5	3719.0	3712.0
4.5°	3733.8	3744.1	3751.1	3756.5	3754.8	3751.9	3744.1	3732.6	3721.0	3709.5	3702.5
5°	3728.0	3738.8	3746.6	3752.4	3750.7	3747.0	3737.9	3725.2	3711.2	3699.6	3691.8
5.5°	3722.7	3732.6	3741.6	3747.0	3746.2	3741.6	3730.5	3716.5	3700.9	3688.9	3679.8
6°	3713.2	3725.6	3735.5	3741.2	3740.8	3735.0	3722.3	3706.2	3690.1	3677.4	3667.5
6.5°	3705.0	3718.6	3728.5	3735.0	3734.2	3727.6	3714.4	3695.1	3678.2	3665.0	3653.5
7°	3695.5	3709.9	3720.2	3728.0	3727.2	3720.2	3704.1	3684.0	3665.8	3651.4	3640.3
7.5°	3684.8	3700.4	3711.6	3719.4	3719.0	3711.6	3693.8	3670.8	3651.4	3636.6	3624.6
8°	3673.2	3690.1	3702.5	3709.9	3710.3	3702.5	3682.7	3657.6	3637.0	3621.3	3609.4
8.5°	3661.3	3679.0	3692.2	3700.0	3700.9	3691.8	3670.4	3643.6	3621.8	3605.7	3592.5
9°	3648.1	3666.7	3681.5	3689.3	3690.1	3680.7	3658.0	3628.8	3605.3	3589.2	3576.4
9.5°	3633.7	3654.3	3669.1	3677.8	3679.0	3669.1	3643.6	3612.7	3589.2	3571.5	3558.3
10°	3618.9	3640.7	3657.2	3665.4	3666.7	3655.9	3629.2	3596.6	3570.7	3553.8	3539.8
10.5°	3602.8	3625.9	3643.6	3652.2	3653.1	3642.4	3613.9	3578.9	3552.5	3535.2	3520.8
11°	3586.3	3611.0	3630.4	3638.2	3639.1	3627.1	3597.9	3561.2	3533.2	3515.9	3501.5
11.5°	3569.0	3595.0	3614.7	3623.0	3623.8	3611.9	3581.4	3542.7	3512.6	3496.1	3481.3
12°	3549.7	3578.1	3599.9	3606.9	3607.7	3595.0	3563.2	3523.3	3492.4	3475.5	3460.3
12.5°	3530.7	3560.4	3582.6	3590.9	3590.9	3577.7	3544.7	3503.5	3471.4	3454.1	3439.2
13°	3511.3	3542.7	3566.1	3574.4	3574.4	3560.0	3526.6	3483.3	3450.0	3432.2	3417.4
13.5°	3490.3	3522.9	3548.0	3555.4	3554.6	3540.2	3506.0	3461.9	3426.9	3410.0	3394.7
14°	3469.7	3503.5	3529.1	3536.9	3535.2	3520.8	3485.8	3440.1	3404.2	3386.5	3371.3
14.5°	3447.5	3482.5	3509.3	3517.5	3514.2	3499.4	3464.8	3417.0	3380.7	3361.8	3347.4
15°	3424.8	3461.9	3488.7	3497.3	3494.4	3478.4	3442.1	3393.9	3356.0	3336.7	3322.7
15.5°	3401.3	3439.7	3467.7	3477.1	3472.2	3456.5	3419.1	3370.0	3330.9	3312.4	3297.1
16°	3377.4	3416.6	3445.8	3454.5	3450.4	3433.9	3396.4	3345.7	3305.8	3286.4	3270.3
16.5°	3352.7	3393.5	3422.8	3432.2	3427.3	3410.0	3372.1	3320.6	3279.8	3259.2	3243.1
17°	3327.6	3369.6	3400.1	3409.6	3403.0	3386.1	3347.8	3295.0	3252.6	3231.2	3215.5
17.5°	3301.2	3345.3	3376.2	3386.5	3379.1	3361.4	3322.2	3267.9	3225.8	3203.2	3186.3
18°	3275.3	3319.8	3351.9	3361.8	3353.5	3336.2	3297.1	3241.5	3197.0	3174.3	3156.6
18.5°	3248.5	3293.8	3326.4	3337.1	3328.0	3310.7	3270.3	3213.5	3169.0	3144.7	3127.4
19°	3220.9	3267.4	3301.6	3311.9	3302.5	3284.7	3243.1	3185.5	3140.6	3115.8	3095.6
19.5°	3192.9	3240.3	3274.9	3286.0	3276.5	3257.6	3215.5	3156.6	3112.5	3084.5	3063.9
20°	3164.9	3213.1	3248.9	3259.6	3249.7	3229.5	3188.3	3128.6	3082.9	3053.6	3032.2
20.5°	3135.6	3184.2	3221.7	3231.2	3221.3	3202.4	3159.5	3098.9	3052.8	3022.3	3000.5
21°	3106.4	3155.4	3194.1	3204.0	3193.7	3173.9	3129.8	3069.7	3023.1	2991.4	2968.8



TEST NUMBER: P776728

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	3016.1	3065.6	3107.2	3116.7	3111.3	3085.3	3040.0	2981.5	2929.2	2894.2	2865.3
23°	2985.2	3034.3	3076.7	3086.6	3082.1	3054.0	3010.4	2949.8	2895.8	2860.4	2830.7
23.5°	2953.9	3002.1	3045.8	3055.7	3052.8	3022.7	2980.3	2918.1	2863.3	2825.8	2794.9
24°	2921.4	2970.4	3013.3	3024.0	3023.6	2991.4	2948.2	2885.9	2829.9	2791.6	2759.5
24.5°	2888.4	2937.9	2981.1	2992.2	2994.3	2965.0	2914.8	2853.4	2797.8	2757.0	2723.2
25°	2855.0	2904.9	2948.2	2959.7	2962.2	2932.5	2881.0	2820.9	2763.6	2722.4	2688.2
25.5°	2821.7	2869.9	2914.8	2925.9	2930.0	2899.1	2847.2	2787.1	2729.8	2687.0	2651.9
26°	2788.3	2836.5	2880.2	2893.0	2898.3	2866.6	2813.0	2754.1	2696.0	2651.9	2616.1
26.5°	2752.9	2802.3	2844.7	2858.8	2866.2	2832.0	2777.6	2719.9	2661.8	2616.5	2579.4
27°	2718.3	2766.1	2809.7	2824.2	2833.6	2798.6	2743.0	2686.1	2626.0	2581.1	2543.2
27.5°	2682.0	2729.4	2773.1	2789.1	2799.4	2763.6	2708.0	2651.5	2591.8	2544.8	2505.7
28°	2646.2	2692.7	2735.2	2752.9	2765.2	2729.0	2672.5	2616.1	2555.9	2506.5	2467.0
28.5°	2609.5	2655.6	2697.3	2716.6	2731.5	2693.6	2636.7	2581.1	2520.1	2467.8	2427.0
29°	2572.0	2617.7	2658.5	2679.5	2696.8	2658.1	2599.6	2544.4	2482.6	2429.5	2387.0
29.5°	2533.7	2578.2	2618.6	2642.1	2660.6	2622.7	2562.5	2506.1	2443.5	2389.5	2344.6
30°	2495.0	2538.2	2578.6	2603.7	2624.8	2586.4	2524.6	2467.8	2403.5	2349.1	2302.6
30.5°	2455.4	2497.9	2538.2	2563.4	2588.1	2548.9	2486.3	2427.8	2364.0	2306.7	2259.7
31°	2415.1	2456.7	2495.4	2524.6	2552.2	2511.5	2446.8	2387.9	2321.5	2264.3	2216.1
31.5°	2373.4	2414.6	2454.6	2483.9	2513.5	2473.6	2406.8	2346.7	2278.3	2221.4	2172.0
32°	2330.2	2371.0	2411.3	2442.2	2475.2	2434.8	2366.8	2304.6	2233.8	2177.3	2126.7
32.5°	2287.7	2329.4	2368.5	2399.8	2436.5	2394.9	2325.6	2261.8	2188.9	2132.4	2082.2
33°	2243.3	2285.3	2326.1	2358.2	2396.9	2354.5	2284.0	2216.9	2142.7	2085.9	2037.7
33.5°	2197.5	2241.2	2284.5	2315.8	2355.3	2313.7	2242.0	2171.6	2095.4	2039.3	1992.8
34°	2149.3	2195.9	2240.4	2272.9	2314.5	2271.7	2199.2	2125.8	2047.6	1993.2	1947.0
34.5°	2100.3	2151.4	2196.3	2229.7	2270.0	2227.6	2156.7	2078.9	1996.9	1943.7	1900.1
35°	2049.2	2104.8	2151.4	2184.3	2226.4	2183.9	2113.1	2030.7	1947.4	1894.3	1853.5
35.5°	1998.1	2058.3	2108.5	2139.4	2180.2	2139.8	2069.4	1982.9	1898.4	1845.3	1805.7
36°	1943.3	2011.3	2061.6	2094.5	2134.1	2094.9	2024.5	1934.7	1849.0	1795.4	1756.3
36.5°	1888.5	1961.5	2017.5	2049.6	2084.6	2048.4	1977.9	1885.7	1798.7	1744.8	1705.2
37°	1832.1	1910.8	1970.5	2002.2	2034.4	2000.2	1930.1	1837.0	1746.8	1693.7	1651.6
37.5°	1776.1	1858.0	1922.3	1953.6	1982.5	1950.7	1881.9	1786.8	1697.8	1641.8	1599.3
38°	1718.0	1804.1	1872.1	1901.3	1928.9	1898.8	1831.7	1736.9	1646.3	1588.6	1544.1
38.5°	1662.8	1750.1	1821.8	1852.3	1872.5	1846.5	1780.6	1686.7	1595.2	1535.1	1489.3
39°	1605.1	1694.1	1768.6	1798.7	1816.8	1792.5	1727.4	1636.0	1542.9	1481.1	1434.5
39.5°	1549.5	1638.0	1714.7	1745.2	1759.6	1736.5	1673.5	1583.7	1491.0	1426.7	1377.7
40°	1493.9	1578.7	1658.2	1689.5	1701.9	1677.6	1618.3	1530.1	1435.8	1370.7	1320.8
40.5°	1438.6	1521.0	1603.9	1632.7	1645.1	1618.7	1563.1	1476.6	1381.8	1315.5	1262.7
41°	1382.6	1466.7	1548.2	1574.6	1588.2	1558.5	1503.7	1422.6	1326.6	1260.7	1205.1
41.5°	1327.4	1410.2	1491.4	1516.9	1533.4	1499.2	1445.7	1369.4	1271.4	1208.3	1148.2
42°	1271.8	1353.4	1432.9	1482.7	1477.4	1439.5	1386.7	1313.0	1215.8	1153.6	1092.2
42.5°	1216.2	1296.9	1374.4	1420.1	1423.4	1380.1	1328.6	1257.4	1164.3	1100.4	1038.2
43°	1159.7	1240.1	1315.9	1356.3	1368.6	1321.6	1271.0	1200.5	1111.1	1047.7	986.3
43.5°	1104.5	1185.3	1257.8	1292.8	1310.5	1264.4	1213.3	1145.3	1061.3	995.8	935.2



TEST NUMBER: P776728

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	945.5	1020.9	1081.9	1115.7	1140.4	1094.6	1041.9	980.1	909.2	844.2	790.6
45.5°	895.2	966.1	1024.2	1060.9	1084.3	1037.8	985.9	928.6	859.4	796.0	745.3
46°	843.3	913.0	966.9	1006.1	1030.4	983.4	931.5	875.5	810.8	748.2	701.2
46.5°	792.2	860.2	910.1	951.7	978.1	929.8	876.7	824.0	761.3	704.1	658.8
47°	742.4	807.9	855.7	896.9	925.7	877.5	824.0	771.6	713.6	658.4	617.2
47.5°	693.8	756.4	803.4	843.7	873.8	826.4	772.5	722.2	667.4	616.3	578.0
48°	646.4	706.6	751.9	791.4	822.7	778.2	722.6	672.4	622.9	575.1	540.5
48.5°	601.1	658.4	701.2	740.7	772.5	731.7	674.8	625.0	579.2	536.8	505.1
49°	556.6	611.0	653.4	690.9	722.6	685.1	627.9	578.4	535.6	498.5	470.9
49.5°	513.7	564.8	606.4	642.7	673.2	640.2	584.6	534.3	493.6	462.2	437.1
50°	473.4	519.1	561.1	594.1	626.6	595.3	541.8	492.3	452.8	428.1	406.2
50.5°	433.4	474.6	516.6	547.9	580.9	552.9	501.4	452.4	414.5	398.0	377.8
51°	395.9	433.4	475.4	503.4	536.4	511.3	463.1	414.9	381.1	368.3	349.4
51.5°	358.8	394.3	435.1	461.4	494.8	471.7	426.4	383.1	348.1	338.2	321.3
52°	324.2	357.6	397.2	421.5	454.4	433.0	395.9	351.4	314.8	308.6	292.9
52.5°	291.3	322.2	360.1	382.3	415.3	400.0	365.0	319.3	281.8	278.9	266.6
53°	260.8	290.0	325.9	345.7	380.3	366.7	334.1	287.6	255.8	253.4	243.1
53.5°	231.9	260.4	292.5	311.5	345.2	333.7	303.2	260.8	232.4	230.3	220.0
54°	206.4	232.8	262.4	280.1	309.8	300.3	272.3	236.5	211.3	208.5	199.0
54.5°	182.9	206.8	232.8	250.5	275.2	267.4	247.2	214.2	192.4	187.5	177.6
55°	161.5	183.7	206.4	223.7	245.5	241.8	223.3	194.5	174.7	168.5	158.2
55.5°	140.9	161.1	181.3	198.6	218.8	215.5	200.6	174.7	157.4	149.6	139.3
56°	124.8	140.5	159.0	175.1	194.0	192.4	178.8	157.0	140.9	132.2	121.9
56.5°	108.4	124.0	139.7	152.8	171.4	170.1	158.2	140.1	125.2	115.8	105.5
57°	92.3	107.9	122.8	135.1	150.4	149.6	139.3	123.6	110.0	100.5	90.6
57.5°	76.2	91.5	105.5	117.8	130.2	129.8	121.1	107.9	96.0	86.5	76.6
58°	61.0	75.0	88.6	100.1	112.1	111.6	104.6	93.5	82.4	72.1	61.4
58.5°	46.1	58.9	71.7	82.8	95.6	95.2	89.4	79.5	68.0	61.4	52.3
59°	33.8	44.5	55.6	65.5	79.5	80.3	74.2	64.3	57.7	50.7	42.8
59.5°	24.7	32.5	40.8	49.0	67.2	69.2	62.6	54.4	47.4	39.6	33.8
60°	18.5	23.5	29.7	35.8	54.8	58.1	51.5	44.5	36.7	28.8	24.7
60.5°	13.6	17.7	21.4	25.5	42.4	47.0	40.0	34.6	26.4	18.1	15.2
61°	11.5	15.2	16.1	19.0	30.1	35.8	28.4	24.7	16.5	14.0	11.9
61.5°	9.5	12.8	13.6	14.0	17.7	24.7	17.3	14.8	12.4	11.1	9.5
62°	7.4	10.3	11.1	11.9	13.2	13.6	13.2	11.1	9.5	8.7	7.8
62.5°	5.4	7.8	8.7	9.9	10.3	10.3	9.9	9.1	7.4	7.0	6.2
63°	4.5	5.8	6.6	7.8	8.2	8.2	7.8	7.0	6.2	5.8	5.4
63.5°	3.7	4.5	5.4	5.8	6.6	6.6	6.2	5.8	4.9	4.9	4.5
64°	2.9	3.7	4.5	4.9	5.4	5.4	5.4	4.9	4.1	4.1	3.7
64.5°	2.5	3.3	3.7	4.1	4.5	4.5	4.1	4.1	3.3	3.3	3.3
65°	2.1	2.9	3.3	3.3	3.7	3.7	3.7	3.3	2.9	2.9	2.9
65.5°	2.1	2.5	2.5	2.9	3.3	2.9	2.9	2.9	2.5	2.5	2.5
66°	1.6	2.1	2.5	2.5	2.5	2.5	2.5	2.5	2.1	2.1	2.1





TEST NUMBER: P776728

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.2	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2
68°	0.8	1.2	1.2	1.2	1.6	1.2	1.6	1.2	1.2	1.2	1.2
68.5°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
69°	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
69.5°	0.8	0.8	0.8	0.8	1.2	0.8	0.8	0.8	0.8	0.8	0.8
70°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70.5°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
71°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
71.5°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	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: P776728

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-5000lm-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: P776728

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3758.9	3758.9	3758.9	3758.9	3758.9	3758.9
0.5°	3757.7	3753.2	3755.6	3757.7	3758.9	3758.1
1°	3753.6	3748.2	3751.1	3754.4	3756.5	3757.3
1.5°	3748.2	3742.5	3746.2	3749.9	3754.4	3756.1
2°	3741.6	3735.5	3739.6	3744.9	3749.9	3754.0
2.5°	3734.6	3727.6	3731.8	3739.2	3745.8	3754.0
3°	3726.4	3718.6	3723.9	3731.8	3741.6	3747.8
3.5°	3717.3	3708.7	3714.4	3724.7	3735.9	3744.1
4°	3707.9	3698.4	3704.6	3716.5	3730.1	3739.6
4.5°	3697.1	3686.4	3693.8	3707.4	3722.7	3733.8
5°	3685.2	3673.7	3681.9	3697.1	3714.9	3728.0
5.5°	3672.4	3660.9	3669.1	3686.4	3705.8	3722.7
6°	3658.8	3646.9	3656.4	3675.3	3696.7	3713.2
6.5°	3644.4	3631.2	3641.9	3662.5	3686.4	3705.0
7°	3629.6	3616.4	3627.1	3649.4	3675.7	3695.5
7.5°	3613.5	3599.5	3611.5	3636.2	3663.8	3684.8
8°	3597.4	3581.8	3595.4	3621.3	3651.0	3673.2
8.5°	3580.1	3563.7	3578.1	3605.7	3636.6	3661.3
9°	3562.8	3545.5	3560.0	3589.6	3622.2	3648.1
9.5°	3543.5	3526.2	3541.8	3572.3	3606.5	3633.7
10°	3524.5	3506.8	3522.5	3555.0	3590.4	3618.9
10.5°	3504.3	3485.4	3503.1	3536.5	3573.5	3602.8
11°	3483.7	3464.0	3482.5	3516.7	3555.8	3586.3
11.5°	3462.7	3442.5	3461.1	3496.5	3537.3	3569.0
12°	3440.5	3419.5	3439.2	3475.9	3517.5	3549.7
12.5°	3418.2	3396.8	3417.0	3454.1	3497.3	3530.7
13°	3394.7	3372.9	3393.5	3432.2	3477.1	3511.3
13.5°	3370.9	3348.6	3369.2	3409.2	3455.3	3490.3
14°	3345.7	3323.9	3344.5	3386.5	3433.5	3469.7
14.5°	3320.2	3298.3	3319.4	3362.6	3410.4	3447.5
15°	3293.8	3272.0	3293.4	3337.9	3388.2	3424.8
15.5°	3268.3	3244.4	3266.6	3312.4	3363.0	3401.3
16°	3240.7	3217.6	3239.8	3287.2	3338.7	3377.4
16.5°	3213.1	3188.8	3211.8	3261.7	3314.0	3352.7
17°	3184.2	3160.7	3183.8	3234.9	3288.5	3327.6
17.5°	3156.2	3131.1	3155.0	3206.5	3260.9	3301.2
18°	3127.4	3101.0	3126.1	3178.5	3233.7	3275.3
18.5°	3097.3	3070.5	3096.9	3149.6	3206.1	3248.5
19°	3067.6	3040.9	3066.0	3120.0	3177.2	3220.9
19.5°	3037.6	3010.0	3036.3	3090.7	3148.4	3192.9
20°	3007.5	2977.8	3006.2	3059.8	3118.7	3164.9
20.5°	2977.8	2946.5	2975.3	3028.5	3087.8	3135.6
21°	2945.7	2914.8	2944.0	2997.2	3056.9	3106.4



TEST NUMBER: P776728

CATALOG NUMBER: HCDJBLS4050CSD-HCD6TSQH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2847.2	2818.4	2847.2	2897.9	2960.1	3016.1
23°	2813.4	2785.0	2813.4	2864.1	2926.7	2985.2
23.5°	2780.1	2752.1	2781.3	2830.3	2893.0	2953.9
24°	2745.5	2718.3	2746.7	2795.7	2858.3	2921.4
24.5°	2710.9	2684.5	2713.3	2760.3	2824.6	2888.4
25°	2676.2	2649.5	2678.3	2724.9	2790.0	2855.0
25.5°	2640.8	2614.9	2643.7	2689.4	2754.5	2821.7
26°	2606.2	2579.8	2607.0	2651.9	2719.5	2788.3
26.5°	2570.0	2543.6	2570.0	2616.1	2683.7	2752.9
27°	2532.9	2506.5	2532.5	2577.0	2647.4	2718.3
27.5°	2495.0	2469.4	2493.7	2538.6	2610.3	2682.0
28°	2456.2	2428.6	2453.0	2499.5	2572.4	2646.2
28.5°	2415.9	2388.3	2414.2	2460.0	2534.1	2609.5
29°	2375.5	2346.7	2372.6	2420.0	2495.4	2572.0
29.5°	2334.3	2304.6	2330.2	2378.4	2455.8	2533.7
30°	2291.5	2260.6	2286.9	2337.2	2416.3	2495.0
30.5°	2247.8	2213.6	2243.3	2294.8	2374.7	2455.4
31°	2203.3	2166.6	2197.1	2252.3	2333.1	2415.1
31.5°	2158.0	2118.8	2151.0	2210.3	2291.0	2373.4
32°	2112.2	2069.8	2102.8	2165.0	2248.6	2330.2
32.5°	2064.5	2021.2	2055.0	2121.7	2205.4	2287.7
33°	2015.8	1970.5	2006.0	2077.2	2160.0	2243.3
33.5°	1966.4	1920.7	1956.9	2032.3	2115.1	2197.5
34°	1916.5	1870.8	1908.3	1985.8	2068.6	2149.3
34.5°	1865.5	1820.6	1858.5	1936.7	2022.0	2100.3
35°	1815.2	1771.1	1807.8	1887.7	1972.6	2049.2
35.5°	1764.5	1721.3	1759.2	1837.4	1923.6	1998.1
36°	1712.6	1672.2	1709.7	1786.4	1870.4	1943.3
36.5°	1661.1	1622.4	1659.9	1734.0	1816.4	1888.5
37°	1608.8	1571.7	1609.2	1676.4	1760.8	1832.1
37.5°	1556.1	1519.8	1557.7	1622.4	1706.4	1776.1
38°	1502.9	1468.7	1504.6	1565.1	1647.1	1718.0
38.5°	1448.1	1412.7	1449.4	1509.9	1588.6	1662.8
39°	1395.0	1356.7	1394.2	1478.2	1528.0	1605.1
39.5°	1340.6	1300.2	1338.9	1413.9	1459.7	1549.5
40°	1285.8	1244.2	1283.3	1349.2	1402.8	1493.9
40.5°	1231.4	1190.2	1228.1	1285.0	1346.0	1438.6
41°	1177.5	1138.3	1170.4	1220.7	1289.5	1382.6
41.5°	1126.0	1086.8	1114.8	1163.9	1232.7	1327.4
42°	1071.6	1037.0	1060.4	1106.6	1175.4	1271.8
42.5°	1019.2	986.3	1008.1	1050.1	1119.4	1216.2
43°	967.8	936.4	956.2	994.1	1062.1	1159.7
43.5°	915.4	886.2	903.1	939.3	1006.9	1104.5



TEST NUMBER: P776728

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	770.0	738.3	750.2	780.7	850.7	945.5
45.5°	723.4	692.1	700.0	731.3	802.5	895.2
46°	678.1	646.8	652.2	683.9	754.8	843.3
46.5°	636.1	601.1	605.2	638.2	709.4	792.2
47°	592.4	557.8	560.7	593.7	663.3	742.4
47.5°	552.5	515.4	518.3	551.6	620.4	693.8
48°	514.2	474.6	477.1	511.3	576.8	646.4
48.5°	477.1	434.6	438.8	473.0	535.2	601.1
49°	442.1	398.0	402.1	436.7	494.0	556.6
49.5°	408.7	362.5	367.5	401.7	455.7	513.7
50°	379.0	329.6	336.2	369.1	417.3	473.4
50.5°	349.8	299.9	306.1	337.8	381.9	433.4
51°	320.1	273.1	279.3	309.0	348.5	395.9
51.5°	290.9	248.8	254.2	281.0	316.8	358.8
52°	265.7	227.0	231.5	255.8	287.2	324.2
52.5°	241.4	207.2	210.1	231.9	259.1	291.3
53°	218.4	188.3	191.2	208.9	232.4	260.8
53.5°	197.8	171.0	172.6	187.0	207.6	231.9
54°	178.0	154.5	155.3	167.3	185.0	206.4
54.5°	159.0	139.7	140.5	148.3	164.0	182.9
55°	141.7	125.2	125.7	132.7	143.0	161.5
55.5°	124.4	110.8	111.2	117.0	126.9	140.9
56°	108.8	96.4	96.4	101.3	110.8	124.8
56.5°	94.3	82.0	81.6	86.1	94.8	108.4
57°	80.7	67.2	66.7	70.4	78.7	92.3
57.5°	65.9	52.3	52.3	55.2	63.4	76.2
58°	56.0	40.0	39.6	42.0	48.6	61.0
58.5°	46.1	30.1	29.3	30.9	36.3	46.1
59°	36.3	22.2	21.8	23.1	26.8	33.8
59.5°	26.4	16.9	16.5	17.3	19.8	24.7
60°	16.5	14.4	14.0	14.8	14.8	18.5
60.5°	12.8	11.5	11.5	12.4	12.8	13.6
61°	10.3	9.1	8.7	10.3	10.3	11.5
61.5°	8.2	6.6	6.2	7.8	8.2	9.5
62°	6.6	5.4	5.4	5.4	6.2	7.4
62.5°	5.4	4.5	4.1	4.5	4.9	5.4
63°	4.5	3.7	3.7	3.7	4.1	4.5
63.5°	3.7	3.3	2.9	2.9	3.3	3.7
64°	3.3	2.9	2.5	2.5	2.9	2.9
64.5°	2.9	2.5	2.1	2.1	2.5	2.5
65°	2.5	2.1	1.6	2.1	2.1	2.1
65.5°	2.1	1.6	1.6	1.6	1.6	2.1
66°	1.6	1.6	1.2	1.2	1.6	1.6



TEST NUMBER: P776728

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.2	1.2	0.8	0.8	1.2	1.2
68°	1.2	0.8	0.8	0.8	0.8	0.8
68.5°	0.8	0.8	0.8	0.8	0.8	0.8
69°	0.8	0.8	0.8	0.8	0.8	0.8
69.5°	0.8	0.8	0.8	0.8	0.8	0.8
70°	0.8	0.8	0.4	0.4	0.4	0.4
70.5°	0.8	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: P776728

CATALOG NUMBER: HCDJBL4050CSD-HCD6TSQH-5000lm-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



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Scaled Data Report





21.5°	3076.3	3125.7	3166.1	3175.6	3166.5	3145.1	3100.2	3040.4	2993.5	2960.5	2934.6
22°	3046.6	3096.1	3136.4	3146.3	3138.5	3116.7	3070.1	3010.8	2960.9	2927.6	2900.8



44°	1049.7	1130.1	1199.3	1228.5	1253.3	1207.9	1154.8	1088.5	1008.5	943.4	885.8
44.5°	997.0	1075.7	1140.4	1172.1	1196.4	1151.5	1099.2	1034.1	960.3	894.4	838.8



66.5°	1.2	1.6	2.1	2.1	2.1	2.1	2.1	2.1	1.6	1.6	1.6
67°	1.2	1.6	1.6	1.6	2.1	2.1	2.1	1.6	1.6	1.6	1.6



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°	2912.7	2883.1	2911.9	2964.2	3024.8	3076.3
22°	2880.2	2850.5	2879.8	2931.7	2992.7	3046.6



44°	866.0	835.5	851.2	885.4	954.2	1049.7
44.5°	818.2	786.1	800.9	832.6	902.2	997.0

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66.5°	1.6	1.2	1.2	1.2	1.2	1.2
67°	1.2	1.2	1.2	1.2	1.2	1.2

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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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Scaled Data Report



(END OF REPORT)