

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: P776388

Luminaire Tested: HCDJBL3040CSD-HCD6TRC-4000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776388
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-HCD6TRC-4000lm-4000K
Description: 6 INCH ROUND MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

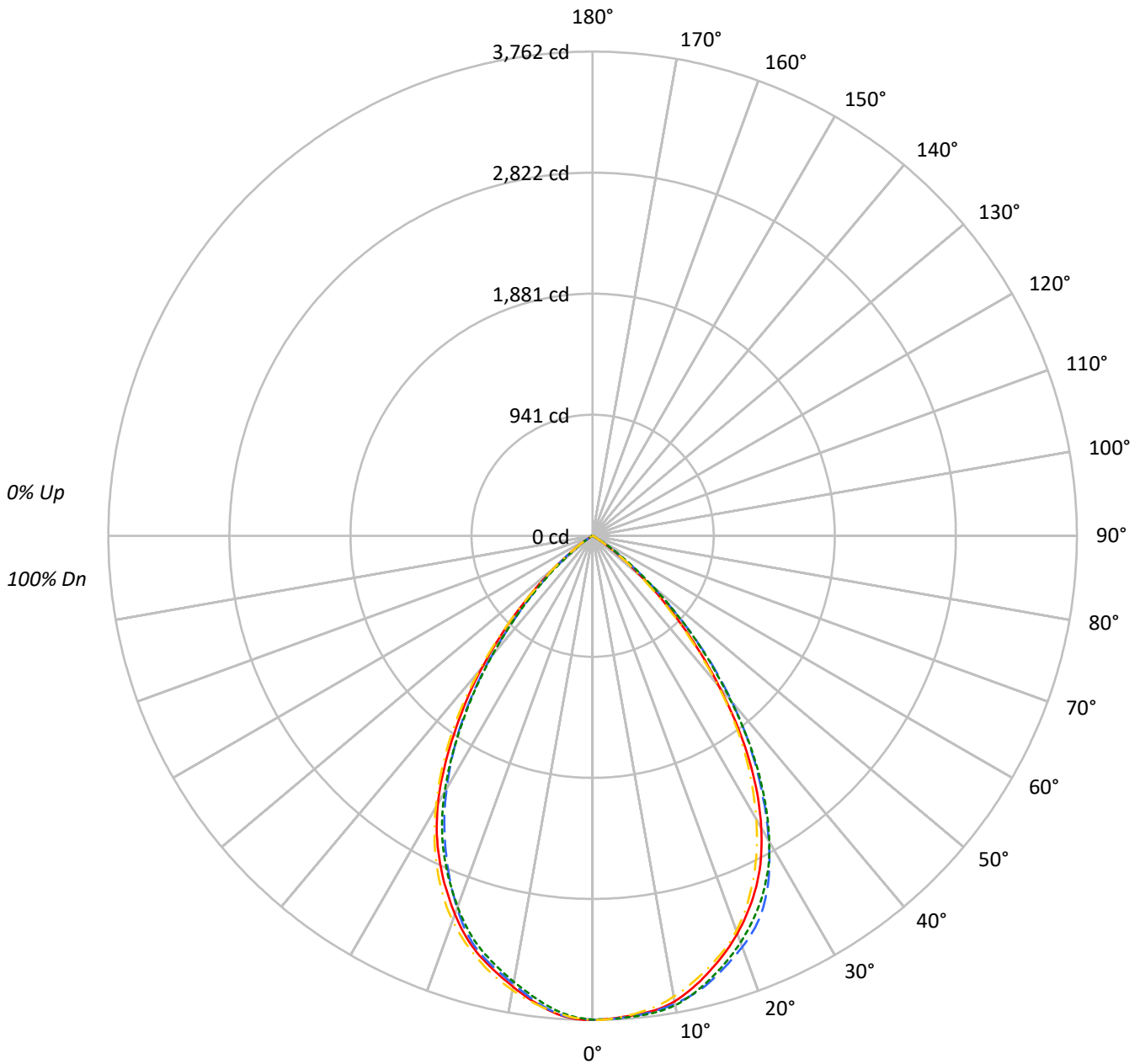
Lumens per Lamp: N/A
Luminaire Lumens: 4752.0 lumens
Efficiency: N/A
Efficacy: 123.4 lumens/watt
Spacing Criteria (0/90/45): 1.05 / 1.05 / 1.05
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P776388
CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-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	97	95	94	92					92			
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84					84			
3	100	93	88	83	98	92	87	83	89	85	81	87	83	80	84	81	79	77					77			
4	94	86	80	75	93	85	79	75	83	78	74	81	76	73	79	75	72	70					70			
5	89	80	73	68	87	79	72	68	77	71	67	75	70	67	73	69	66	64					64			
6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	68	64	61	59					59			
7	79	68	62	57	77	68	61	57	66	61	57	65	60	56	64	59	56	54					54			
8	74	64	57	53	73	63	57	52	62	56	52	61	56	52	60	55	52	50					50			
9	70	60	53	49	69	59	53	48	58	52	48	57	52	48	56	51	48	46					46			
10	66	56	49	45	65	55	49	45	54	49	45	54	48	45	53	48	45	43					43			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	206118	206118	206118	206118
5°	205706	206306	204132	202602
10°	204450	206159	198076	195922
15°	198906	201948	191834	189138
20°	191782	196110	182465	178895
25°	181898	187898	169752	165239
30°	165810	173641	152106	145649
35°	141649	150503	125487	117611
40°	109491	119273	95386	87278
45°	75675	85645	63231	55696
50°	42839	51265	32835	27197
55°	16105	21543	13065	10246
60°	1151	3717	526	614
65°	156	208	156	104
70°	64	64	64	64
75°	0	85	0	0
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 88583 cd/sqm



TEST NUMBER: P776388

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	351.7	7.4
10°-20°	968.9	20.4
20°-30°	1331.3	28.0
30°-40°	1237.7	26.0
40°-50°	698.9	14.7
50°-60°	161.2	3.4
60°-70°	2.0	0.0
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°	2651.9	55.8
0°-40°	3889.6	81.9
0°-60°	4749.7	100.0
0°-90°	4752.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4752.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3760	3760	3760	3760	3760	
5°	3738	3749	3710	3682	3738	355
15°	3505	3558	3380	3333	3505	986
25°	3007	3106	2806	2732	3007	1374
35°	2117	2249	1875	1757	2117	1306
45°	976	1105	816	718	976	755
55°	168	225	137	107	168	174
65°	1	2	1	1	1	2
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°	3759.9	3759.9	3759.9	3759.9	3759.9	3759.9	3759.9	3759.9	3759.9	3759.9	3759.9
0.5°	3761.1	3759.1	3759.1	3760.7	3758.7	3760.7	3762.3	3763.1	3761.9	3759.1	3757.5
1°	3759.5	3759.1	3759.1	3760.7	3759.1	3761.1	3761.9	3762.3	3761.5	3759.1	3756.7
1.5°	3757.1	3757.1	3758.3	3760.7	3758.3	3761.1	3759.9	3760.7	3759.5	3757.1	3754.3
2°	3755.1	3755.9	3757.5	3760.7	3757.9	3760.7	3757.5	3757.5	3757.1	3755.1	3751.0
2.5°	3752.7	3754.7	3756.7	3759.5	3757.1	3758.7	3754.3	3753.5	3752.7	3751.0	3747.0
3°	3749.4	3752.7	3754.7	3757.9	3755.9	3756.7	3750.2	3748.2	3746.6	3746.2	3741.8
3.5°	3746.6	3750.6	3752.7	3756.7	3754.7	3754.3	3745.8	3741.8	3738.9	3738.9	3734.5
4°	3744.2	3748.6	3750.6	3754.7	3752.7	3751.8	3741.0	3734.1	3730.9	3730.1	3726.0
4.5°	3741.0	3745.8	3748.2	3752.7	3751.0	3749.4	3734.9	3725.6	3720.8	3720.0	3715.2
5°	3738.1	3743.4	3745.4	3749.8	3749.0	3746.6	3729.3	3716.4	3709.5	3708.7	3703.1
5.5°	3735.7	3740.2	3742.2	3747.0	3747.0	3743.8	3722.4	3705.9	3697.0	3695.4	3689.8
6°	3731.7	3736.5	3738.1	3744.2	3745.4	3740.6	3715.6	3695.4	3684.5	3682.1	3674.8
6.5°	3728.1	3732.1	3734.1	3740.6	3742.2	3737.7	3708.3	3683.7	3670.0	3666.8	3659.9
7°	3723.2	3727.7	3729.3	3736.9	3739.3	3733.7	3701.0	3672.0	3655.5	3651.9	3643.4
7.5°	3717.6	3722.0	3724.4	3732.5	3736.1	3730.1	3692.2	3659.9	3640.2	3635.7	3626.5
8°	3711.5	3715.6	3718.8	3728.1	3731.7	3725.6	3682.5	3646.2	3624.4	3619.2	3608.7
8.5°	3704.3	3708.3	3712.7	3722.0	3726.0	3719.6	3672.4	3632.9	3607.9	3601.9	3591.4
9°	3695.0	3700.2	3706.3	3716.8	3719.2	3713.1	3661.5	3619.2	3592.2	3585.7	3573.6
9.5°	3684.5	3690.6	3699.4	3709.9	3711.5	3705.1	3649.0	3605.9	3575.3	3568.8	3556.3
10°	3672.8	3680.9	3691.8	3702.7	3703.5	3695.4	3635.7	3591.4	3558.3	3551.1	3539.0
10.5°	3659.9	3669.6	3684.1	3694.2	3693.0	3684.5	3622.4	3576.1	3541.0	3533.7	3520.8
11°	3645.0	3657.1	3674.8	3685.3	3681.3	3672.0	3608.3	3560.7	3523.7	3516.0	3503.1
11.5°	3630.5	3643.4	3666.0	3676.1	3668.8	3657.9	3592.6	3546.2	3506.7	3498.3	3485.8
12°	3614.0	3629.7	3655.1	3666.0	3654.7	3642.6	3576.9	3530.5	3489.8	3480.1	3469.2
12.5°	3597.0	3614.8	3644.6	3654.7	3640.6	3626.1	3559.9	3514.0	3472.1	3460.8	3452.3
13°	3579.3	3599.5	3632.1	3643.4	3625.3	3609.5	3544.6	3497.0	3454.7	3441.8	3435.8
13.5°	3562.0	3582.9	3620.0	3631.7	3609.1	3592.2	3526.9	3479.7	3436.6	3421.3	3418.0
14°	3542.6	3566.4	3606.3	3619.2	3592.6	3573.6	3510.8	3461.6	3418.4	3400.3	3400.3
14.5°	3524.5	3550.3	3591.4	3605.9	3575.3	3554.7	3492.6	3441.8	3399.9	3378.1	3381.3
15°	3504.7	3532.5	3575.3	3592.6	3558.3	3535.3	3475.3	3422.1	3380.1	3356.3	3362.0
15.5°	3485.4	3514.8	3559.1	3577.3	3540.6	3516.4	3456.7	3401.9	3360.4	3333.0	3341.4
16°	3465.6	3497.0	3542.2	3562.0	3522.0	3497.5	3439.4	3379.3	3339.4	3309.2	3319.7
16.5°	3445.4	3478.9	3524.5	3545.4	3503.9	3478.1	3420.0	3356.7	3316.8	3285.4	3295.1
17°	3424.1	3460.4	3507.1	3529.3	3484.5	3458.3	3400.7	3334.6	3293.0	3259.6	3269.3
17.5°	3403.9	3441.8	3489.4	3511.6	3464.8	3438.6	3381.3	3310.4	3268.0	3232.2	3241.4
18°	3381.7	3423.3	3471.6	3494.6	3444.6	3418.0	3360.0	3286.6	3243.1	3206.4	3211.6
18.5°	3359.6	3404.7	3453.9	3476.9	3424.9	3397.9	3339.0	3260.8	3215.2	3178.5	3179.8
19°	3335.8	3385.4	3436.2	3458.7	3403.9	3377.7	3316.0	3235.8	3187.4	3150.7	3147.1
19.5°	3311.6	3365.2	3418.0	3439.8	3383.4	3355.9	3291.0	3210.0	3158.0	3120.9	3113.6
20°	3287.4	3344.7	3399.1	3419.2	3361.6	3334.2	3265.6	3182.6	3127.7	3092.3	3079.0
20.5°	3262.0	3322.9	3380.5	3398.7	3338.2	3310.0	3238.6	3154.0	3097.1	3062.0	3042.7
21°	3237.0	3300.3	3360.8	3377.3	3315.2	3285.4	3210.8	3126.1	3066.5	3031.0	3006.4



TEST NUMBER: P776388

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	3156.0	3226.1	3295.9	3306.4	3242.7	3206.4	3119.7	3037.8	2971.7	2937.5	2897.1
23°	3128.6	3198.7	3270.9	3279.3	3216.0	3177.3	3087.4	3006.8	2940.3	2906.0	2858.4
23.5°	3099.1	3170.5	3245.5	3252.3	3190.2	3148.7	3053.6	2976.2	2908.8	2870.9	2818.9
24°	3069.3	3141.1	3216.4	3222.9	3163.2	3118.1	3019.7	2945.5	2875.0	2835.9	2779.4
24.5°	3038.2	3111.2	3186.2	3191.4	3135.0	3087.0	2985.8	2914.9	2840.7	2800.4	2739.5
25°	3007.2	3079.8	3154.4	3160.0	3106.4	3055.6	2951.6	2881.4	2806.4	2763.7	2700.0
25.5°	2974.5	3045.9	3120.5	3126.5	3076.5	3022.1	2917.7	2847.1	2770.5	2726.6	2659.7
26°	2939.9	3011.6	3084.2	3091.5	3043.5	2988.7	2876.6	2811.3	2734.3	2689.9	2619.4
26.5°	2904.8	2977.0	3047.1	3055.2	3010.4	2955.2	2837.5	2774.2	2697.2	2650.8	2579.0
27°	2868.5	2939.9	3007.6	3017.3	2977.4	2922.1	2799.2	2737.1	2658.5	2611.7	2537.9
27.5°	2830.6	2900.0	2966.9	2978.6	2944.3	2887.1	2757.6	2698.0	2619.8	2571.0	2494.8
28°	2789.9	2859.6	2922.5	2937.5	2910.8	2847.5	2717.3	2657.3	2580.3	2528.2	2451.6
28.5°	2750.4	2817.3	2878.6	2895.5	2871.3	2810.1	2674.6	2614.9	2537.9	2483.5	2406.1
29°	2707.7	2773.4	2831.8	2851.2	2830.2	2768.1	2631.9	2572.2	2494.4	2438.3	2361.7
29.5°	2663.7	2730.6	2785.5	2806.4	2787.1	2727.4	2587.1	2527.4	2448.4	2392.4	2314.2
30°	2619.4	2683.1	2736.7	2760.5	2743.1	2684.7	2543.2	2482.3	2402.9	2345.2	2266.6
30.5°	2574.2	2637.9	2688.7	2714.9	2698.0	2641.5	2497.2	2435.1	2354.5	2296.8	2218.6
31°	2527.0	2590.7	2638.3	2665.3	2652.4	2596.0	2450.4	2386.7	2305.3	2247.6	2171.4
31.5°	2477.8	2542.4	2587.9	2616.9	2604.8	2551.2	2403.3	2338.4	2254.9	2197.6	2123.1
32°	2430.3	2492.4	2536.7	2565.7	2556.5	2504.5	2356.5	2289.2	2202.5	2147.3	2075.1
32.5°	2381.1	2442.4	2485.9	2514.9	2507.7	2458.1	2307.7	2238.4	2149.3	2094.0	2025.9
33°	2331.1	2392.0	2432.7	2463.3	2457.7	2407.7	2259.3	2186.8	2095.6	2040.4	1977.5
33.5°	2278.7	2340.8	2383.1	2412.1	2407.7	2358.5	2210.1	2134.8	2041.2	1987.2	1929.1
34°	2227.5	2287.6	2330.3	2359.3	2354.5	2307.7	2161.4	2081.5	1986.0	1932.0	1879.6
34.5°	2172.7	2234.7	2278.7	2307.7	2302.1	2256.1	2111.0	2029.1	1929.5	1878.3	1828.8
35°	2116.6	2179.1	2226.3	2254.9	2248.9	2202.1	2061.4	1975.1	1875.1	1823.9	1776.7
35.5°	2060.2	2124.3	2174.3	2202.5	2194.8	2149.3	2011.0	1921.5	1820.7	1768.7	1724.7
36°	2004.1	2069.0	2122.3	2150.1	2140.0	2094.0	1958.6	1867.1	1767.1	1715.1	1671.5
36.5°	1945.7	2012.6	2068.2	2096.9	2082.3	2038.8	1904.1	1813.0	1713.0	1660.2	1617.1
37°	1886.8	1957.8	2016.6	2042.8	2024.7	1983.6	1850.5	1759.4	1659.4	1606.2	1561.1
37.5°	1826.3	1899.7	1964.2	1988.0	1966.2	1926.7	1794.9	1705.4	1606.2	1552.2	1506.2
38°	1766.3	1842.5	1909.8	1933.2	1907.4	1868.3	1739.7	1650.2	1553.4	1496.5	1450.2
38.5°	1705.8	1784.8	1854.6	1876.3	1847.3	1809.8	1683.2	1595.7	1500.2	1442.5	1395.4
39°	1644.9	1727.2	1798.9	1821.5	1787.6	1751.3	1625.2	1540.9	1444.5	1387.7	1339.3
39.5°	1587.7	1669.5	1743.7	1764.7	1726.8	1691.7	1568.3	1486.1	1388.9	1333.3	1281.7
40°	1530.0	1609.4	1686.4	1709.0	1666.7	1630.8	1510.7	1430.4	1332.9	1277.6	1226.8
40.5°	1473.6	1550.6	1630.0	1651.4	1608.6	1571.5	1452.2	1375.6	1276.8	1223.6	1170.0
41°	1417.5	1492.1	1572.3	1593.7	1549.8	1511.9	1392.1	1320.8	1221.6	1170.0	1114.3
41.5°	1361.5	1426.8	1515.5	1535.2	1492.9	1452.6	1332.5	1265.5	1166.4	1116.0	1059.1
42°	1305.8	1374.4	1459.9	1477.6	1435.7	1394.5	1273.2	1209.9	1114.3	1063.5	1005.5
42.5°	1249.8	1322.0	1402.6	1419.9	1381.6	1336.5	1215.9	1155.5	1064.8	1011.5	955.5
43°	1193.8	1269.6	1345.4	1363.1	1326.4	1280.4	1157.5	1097.4	1014.4	959.9	904.3
43.5°	1138.1	1217.2	1288.1	1327.2	1270.0	1224.0	1100.2	1042.6	965.2	909.9	856.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	976.1	1054.7	1117.6	1142.6	1104.7	1056.3	939.4	882.1	815.6	766.8	718.0
45.5°	923.6	1000.7	1060.3	1081.3	1049.0	1002.3	887.4	828.9	767.6	719.2	675.7
46°	874.1	947.4	1003.1	1026.9	995.8	948.6	835.4	778.1	720.1	674.5	633.4
46.5°	823.3	895.0	947.8	973.2	945.4	896.6	785.8	728.5	673.3	631.4	593.5
47°	772.9	844.6	893.4	919.2	893.0	845.8	735.8	678.9	627.3	589.0	554.4
47.5°	723.3	793.4	840.6	866.0	842.6	797.5	688.2	633.4	585.4	547.9	518.5
48°	676.9	743.4	788.2	813.6	793.8	749.5	642.2	586.2	541.4	508.4	482.2
48.5°	630.1	693.8	736.6	762.4	744.6	703.1	597.9	543.1	499.1	470.9	448.7
49°	586.6	647.1	687.4	712.8	695.1	658.4	554.4	500.7	457.6	435.0	415.7
49.5°	543.1	599.9	638.6	662.8	646.7	614.8	514.4	462.0	419.3	400.7	387.0
50°	502.3	553.5	593.1	616.0	601.1	572.1	474.1	424.1	385.0	370.5	358.4
50.5°	460.8	508.8	548.3	569.7	555.6	530.2	437.4	392.7	351.2	340.3	329.8
51°	422.9	465.3	504.4	524.9	512.8	490.2	402.4	361.6	317.3	310.4	301.2
51.5°	385.4	422.9	462.4	481.4	470.9	451.1	371.3	330.2	283.4	280.2	272.5
52°	348.7	383.8	422.1	439.4	430.6	413.6	340.3	298.7	256.0	253.2	247.1
52.5°	313.3	346.7	383.4	401.1	395.1	379.4	309.2	267.3	231.4	228.6	223.4
53°	280.6	312.0	346.7	362.8	360.0	345.1	278.2	241.5	209.6	205.6	200.4
53.5°	249.2	278.6	310.4	325.8	324.5	311.2	251.6	218.5	190.3	184.2	178.6
54°	219.3	248.3	277.8	291.5	289.5	277.0	225.8	196.3	170.9	163.7	156.8
54.5°	192.7	218.9	245.5	260.0	254.4	247.9	202.4	175.8	153.6	145.1	137.1
55°	168.5	192.3	216.5	230.2	225.4	220.5	179.0	156.4	136.7	127.0	117.7
55.5°	145.9	167.7	189.1	202.0	198.0	193.9	157.2	137.9	120.1	109.3	100.0
56°	127.8	143.9	162.9	175.4	173.0	170.1	137.1	120.1	104.4	93.1	83.1
56.5°	110.1	125.8	138.7	152.0	149.6	147.6	117.3	103.6	89.1	77.8	68.1
57°	91.9	107.6	120.5	133.4	127.8	126.6	99.2	87.5	74.6	64.1	56.0
57.5°	74.2	89.5	102.4	114.9	108.0	106.8	82.2	72.6	61.7	50.8	43.5
58°	56.0	71.4	84.3	96.8	89.5	88.7	67.7	59.7	48.4	37.5	31.0
58.5°	39.9	53.2	66.1	78.2	73.8	73.0	55.2	46.8	35.5	23.8	18.9
59°	24.6	37.5	50.0	60.1	60.5	59.7	42.7	33.9	22.6	10.5	6.5
59.5°	13.3	23.0	33.9	43.5	47.2	46.8	30.6	21.0	9.7	5.6	4.4
60°	10.5	12.1	20.2	27.8	33.9	33.5	18.1	8.1	4.8	4.0	3.6
60.5°	8.1	9.7	10.5	15.7	20.6	20.6	5.6	4.4	3.6	3.2	3.2
61°	5.2	7.7	8.5	12.5	7.7	7.3	3.6	3.2	3.2	2.8	2.8
61.5°	2.8	5.2	6.5	9.3	4.4	4.0	2.8	2.8	2.8	2.4	2.4
62°	2.4	3.2	4.8	6.5	3.2	3.2	2.4	2.4	2.4	2.4	2.0
62.5°	2.0	2.8	3.2	3.2	2.8	2.8	2.0	2.0	2.0	2.0	2.0
63°	2.0	2.4	2.8	2.8	2.4	2.4	2.0	2.0	1.6	1.6	1.6
63.5°	1.6	2.0	2.4	2.4	2.0	2.0	1.6	1.6	1.6	1.6	1.6
64°	1.2	1.6	2.0	2.0	2.0	1.6	1.6	1.6	1.6	1.6	1.2
64.5°	1.2	1.6	1.6	2.0	1.6	1.6	1.2	1.2	1.2	1.2	1.2
65°	1.2	1.2	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2	1.2
65.5°	0.8	1.2	1.2	1.6	1.2	1.2	1.2	1.2	1.2	1.2	0.8
66°	0.8	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8	0.8



TEST NUMBER: P776388

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
68°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
68.5°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4
69°	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4
69.5°	0.4	0.4	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
70.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
71°	0.4	0.4	0.4	0.4	0.4	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	0.4	0.4	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°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
74.5°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
75°	0.0	0.0	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.4
75.5°	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	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	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: P776388

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-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: P776388

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3759.9	3759.9	3759.9	3759.9	3759.9	3759.9
0.5°	3757.5	3755.5	3756.7	3759.9	3761.1	3761.1
1°	3755.1	3752.7	3752.7	3757.5	3759.1	3759.5
1.5°	3751.8	3748.2	3747.8	3754.3	3755.9	3757.1
2°	3747.0	3742.6	3741.4	3749.4	3752.7	3755.1
2.5°	3741.4	3735.7	3734.1	3743.8	3748.6	3752.7
3°	3733.7	3727.7	3725.6	3737.3	3744.2	3749.4
3.5°	3725.2	3718.0	3716.4	3729.7	3739.3	3746.6
4°	3715.2	3707.1	3705.9	3722.4	3734.5	3744.2
4.5°	3703.5	3695.0	3694.6	3713.9	3729.3	3741.0
5°	3690.6	3681.7	3681.7	3705.1	3723.6	3738.1
5.5°	3675.6	3668.0	3668.8	3695.4	3718.0	3735.7
6°	3661.5	3653.1	3655.1	3685.3	3711.5	3731.7
6.5°	3645.4	3637.3	3641.0	3674.8	3703.9	3728.1
7°	3629.7	3621.2	3626.1	3664.0	3697.0	3723.2
7.5°	3613.2	3605.5	3611.1	3651.5	3688.1	3717.6
8°	3595.4	3588.2	3595.8	3639.8	3680.1	3711.5
8.5°	3578.1	3571.6	3580.1	3626.9	3669.2	3704.3
9°	3561.2	3554.3	3563.6	3613.6	3658.3	3695.0
9.5°	3543.8	3537.0	3546.6	3599.5	3646.2	3684.5
10°	3526.1	3519.6	3530.9	3585.7	3633.3	3672.8
10.5°	3507.9	3502.3	3514.8	3570.4	3619.6	3659.9
11°	3491.0	3485.0	3498.3	3555.9	3604.7	3645.0
11.5°	3472.1	3467.2	3480.9	3540.6	3589.4	3630.5
12°	3454.3	3448.7	3463.6	3524.1	3573.6	3614.0
12.5°	3435.4	3430.9	3446.2	3507.1	3557.1	3597.0
13°	3416.4	3412.0	3428.5	3489.8	3541.4	3579.3
13.5°	3395.4	3393.0	3409.6	3471.6	3524.5	3562.0
14°	3375.3	3372.9	3390.6	3453.1	3507.5	3542.6
14.5°	3353.9	3353.5	3370.9	3432.9	3491.0	3524.5
15°	3332.6	3332.6	3350.3	3413.2	3473.7	3504.7
15.5°	3309.6	3310.8	3329.7	3391.8	3455.1	3485.4
16°	3286.2	3288.2	3307.6	3371.7	3437.0	3465.6
16.5°	3261.6	3264.8	3284.2	3350.3	3418.0	3445.4
17°	3236.6	3239.8	3260.0	3328.1	3398.7	3424.1
17.5°	3208.8	3213.2	3234.2	3305.5	3378.1	3403.9
18°	3182.2	3185.8	3207.6	3282.6	3355.9	3381.7
18.5°	3152.7	3157.2	3179.8	3259.2	3332.2	3359.6
19°	3122.9	3128.2	3151.1	3234.2	3307.2	3335.8
19.5°	3092.3	3097.5	3122.1	3208.8	3281.4	3311.6
20°	3060.8	3066.5	3092.3	3182.6	3253.9	3287.4
20.5°	3027.8	3035.0	3061.2	3154.4	3226.1	3262.0
21°	2993.9	3003.2	3029.8	3126.5	3196.3	3237.0

TEST NUMBER: P776388

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2893.5	2904.4	2934.2	3031.8	3099.9	3156.0
23°	2858.0	2871.7	2902.4	2998.7	3064.9	3128.6
23.5°	2820.1	2837.9	2868.5	2964.9	3029.4	3099.1
24°	2782.6	2803.6	2835.1	2929.0	2994.7	3069.3
24.5°	2744.3	2767.3	2799.2	2894.3	2958.4	3038.2
25°	2706.4	2731.8	2764.5	2856.8	2920.9	3007.2
25.5°	2666.5	2695.2	2727.0	2819.3	2882.6	2974.5
26°	2625.8	2656.9	2690.7	2780.6	2844.3	2939.9
26.5°	2584.3	2617.3	2652.0	2742.3	2805.2	2904.8
27°	2542.0	2576.6	2611.3	2701.6	2765.7	2868.5
27.5°	2498.0	2534.3	2569.0	2659.7	2725.8	2830.6
28°	2453.7	2490.7	2525.4	2615.7	2682.7	2789.9
28.5°	2407.7	2444.8	2481.1	2572.2	2640.7	2750.4
29°	2361.3	2398.8	2434.7	2526.6	2596.8	2707.7
29.5°	2313.4	2350.0	2385.9	2482.7	2552.8	2663.7
30°	2265.0	2300.9	2337.5	2434.7	2506.5	2619.4
30.5°	2216.6	2249.3	2287.6	2388.3	2461.3	2574.2
31°	2167.0	2198.1	2235.9	2339.6	2414.6	2527.0
31.5°	2116.6	2144.4	2181.1	2291.2	2367.4	2477.8
32°	2066.2	2090.0	2127.5	2244.0	2318.2	2430.3
32.5°	2015.8	2034.4	2073.9	2193.6	2270.2	2381.1
33°	1963.0	1980.3	2019.0	2144.4	2219.8	2331.1
33.5°	1911.4	1924.7	1963.4	2092.8	2171.4	2278.7
34°	1857.4	1869.9	1909.4	2041.6	2121.5	2227.5
34.5°	1805.4	1812.2	1853.7	1989.6	2070.2	2172.7
35°	1753.0	1757.4	1799.3	1935.6	2016.6	2116.6
35.5°	1699.3	1702.6	1745.7	1882.8	1964.2	2060.2
36°	1646.1	1648.9	1690.9	1828.8	1909.4	2004.1
36.5°	1590.5	1596.5	1638.1	1774.7	1854.6	1945.7
37°	1535.2	1542.1	1584.4	1717.9	1797.3	1886.8
37.5°	1480.0	1488.9	1530.4	1661.4	1740.1	1826.3
38°	1424.4	1430.4	1476.0	1605.0	1682.4	1766.3
38.5°	1369.1	1377.6	1421.2	1546.5	1623.9	1705.8
39°	1312.7	1324.8	1365.9	1490.9	1564.7	1644.9
39.5°	1257.9	1272.0	1310.7	1428.4	1505.4	1587.7
40°	1203.8	1219.6	1255.5	1373.6	1442.5	1530.0
40.5°	1150.2	1165.5	1200.2	1318.3	1383.7	1473.6
41°	1097.4	1111.9	1145.0	1263.5	1324.8	1417.5
41.5°	1044.6	1060.7	1090.2	1208.3	1266.3	1361.5
42°	991.8	1009.9	1037.7	1151.8	1207.5	1305.8
42.5°	941.0	959.9	986.5	1096.2	1149.0	1249.8
43°	889.8	909.9	934.5	1040.2	1093.4	1193.8
43.5°	840.2	862.4	883.7	984.1	1037.7	1138.1



TEST NUMBER: P776388

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	699.9	718.4	733.8	819.6	879.3	976.1
45.5°	656.8	672.5	684.6	768.4	829.7	923.6
46°	613.6	626.5	637.4	718.8	781.7	874.1
46.5°	574.1	583.8	591.4	670.5	735.4	823.3
47°	535.0	541.0	547.5	625.3	689.4	772.9
47.5°	498.3	499.1	504.4	581.4	643.0	723.3
48°	462.0	458.8	462.8	537.8	599.9	676.9
48.5°	427.4	422.1	424.1	497.9	557.2	630.1
49°	395.1	385.4	387.0	459.2	516.5	586.6
49.5°	366.1	352.4	353.2	424.1	476.1	543.1
50°	337.4	318.9	319.7	389.5	438.6	502.3
50.5°	308.4	289.9	289.9	355.6	400.7	460.8
51°	279.4	261.7	262.1	323.7	366.1	422.9
51.5°	253.6	237.5	237.1	295.9	332.6	385.4
52°	229.0	214.5	214.9	268.1	302.0	348.7
52.5°	206.0	193.9	193.9	241.9	272.1	313.3
53°	183.8	173.8	174.2	216.9	244.3	280.6
53.5°	162.9	156.0	156.0	194.3	217.7	249.2
54°	143.1	139.1	138.3	172.6	193.5	219.3
54.5°	125.0	123.4	122.6	152.0	169.3	192.7
55°	106.8	107.2	106.4	134.3	148.0	168.5
55.5°	90.3	91.5	90.7	116.9	129.8	145.9
56°	74.6	75.8	74.6	99.6	112.1	127.8
56.5°	61.3	61.7	60.5	82.2	93.9	110.1
57°	48.4	46.4	45.2	64.9	76.2	91.9
57.5°	35.1	31.4	29.8	49.6	58.5	74.2
58°	22.2	18.5	16.9	33.1	41.9	56.0
58.5°	8.9	14.9	13.3	19.8	27.0	39.9
59°	4.8	11.7	9.7	10.1	15.3	24.6
59.5°	3.6	8.9	6.5	8.1	12.1	13.3
60°	3.2	5.6	2.8	6.0	8.9	10.5
60.5°	2.8	2.4	2.4	4.4	5.6	8.1
61°	2.4	2.0	2.0	2.4	2.8	5.2
61.5°	2.0	2.0	1.6	2.0	2.4	2.8
62°	1.6	1.6	1.6	2.0	2.0	2.4
62.5°	1.6	1.6	1.2	1.6	1.6	2.0
63°	1.6	1.2	1.2	1.6	1.6	2.0
63.5°	1.2	1.2	1.2	1.2	1.2	1.6
64°	1.2	1.2	1.2	1.2	1.2	1.2
64.5°	1.2	0.8	0.8	1.2	1.2	1.2
65°	0.8	0.8	0.8	0.8	0.8	1.2
65.5°	0.8	0.8	0.8	0.8	0.8	0.8
66°	0.8	0.8	0.8	0.8	0.8	0.8



TEST NUMBER: P776388
 CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.8	0.4	0.4	0.4	0.4	0.8
68°	0.4	0.4	0.4	0.4	0.4	0.8
68.5°	0.4	0.4	0.4	0.4	0.4	0.4
69°	0.4	0.4	0.4	0.4	0.4	0.4
69.5°	0.4	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4	0.4
70.5°	0.4	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	0.0	0.4	0.4	0.4
73.5°	0.4	0.0	0.0	0.0	0.0	0.4
74°	0.4	0.0	0.0	0.0	0.0	0.0
74.5°	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	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: P776388

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRC-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°	3210.4	3276.5	3340.2	3355.1	3291.4	3260.0	3182.2	3097.1	3035.0	2999.5	2969.7
22°	3183.4	3251.9	3318.4	3330.9	3267.2	3233.8	3151.9	3068.5	3003.2	2968.5	2933.4



44°	1082.1	1163.1	1230.9	1265.5	1213.5	1167.6	1046.6	989.0	914.8	862.0	809.6
44.5°	1028.1	1107.9	1173.6	1203.8	1160.7	1112.3	994.2	935.3	866.4	813.6	764.0



66.5°	0.8	0.8	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8	0.8
67°	0.8	0.8	1.2	1.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8



89°	0.0	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	0.0

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21.5°	2960.4	2970.5	2998.7	3096.3	3165.2	3210.4
22°	2927.0	2937.5	2966.9	3063.6	3133.4	3183.4



44°	791.0	812.8	832.5	928.1	983.7	1082.1
44.5°	745.0	765.6	783.3	872.4	930.9	1028.1

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66.5°	0.8	0.8	0.8	0.8	0.8	0.8
67°	0.8	0.8	0.4	0.8	0.8	0.8

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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)