

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: P776365

Luminaire Tested: HCDJBL3040CSD-HCD62TRH-4000lm-2700K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776365  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B056)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL3040CSD-HCD62TRH-4000lm-2700K  
Description: 6 INCH ROUND NARROW HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4047.3 lumens  
Efficiency: N/A  
Efficacy: 105.1 lumens/watt  
Spacing Criteria (0/90/45): 0.83 / 0.82 / 0.91  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

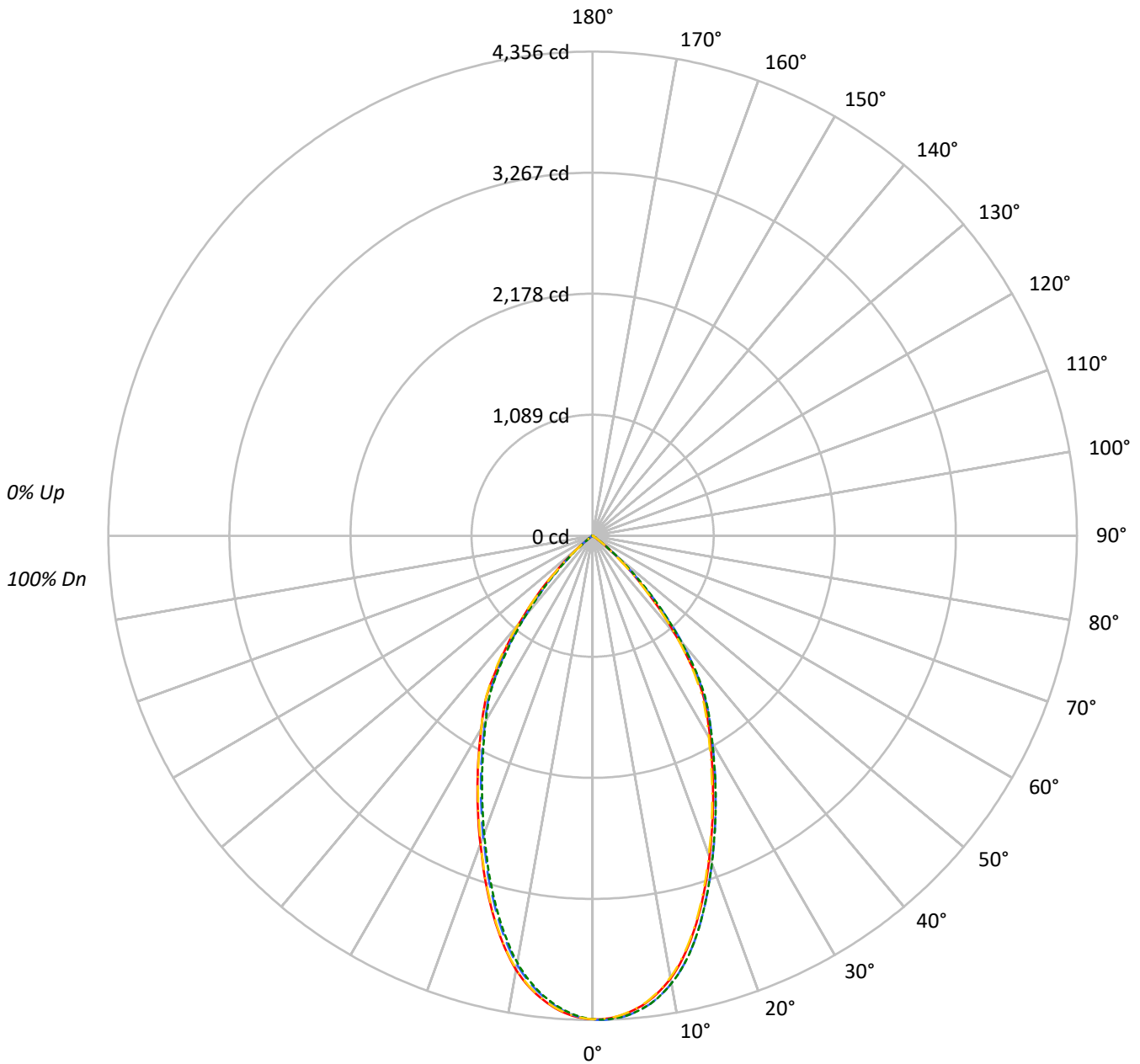
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	108	106	111	108	106	104	104	102	101	100	99	98	97	96	95	93					93			
2	107	102	98	95	105	101	97	93	97	94	91	94	92	89	92	89	88	86					86			
3	102	95	90	85	100	93	89	85	91	87	83	88	85	82	86	83	81	79					79			
4	96	88	82	78	94	87	82	77	85	80	77	83	79	76	81	78	75	73					73			
5	91	82	76	71	89	81	75	71	79	74	70	78	73	70	76	72	69	68					68			
6	86	77	70	66	84	76	70	66	74	69	65	73	68	65	71	67	64	63					63			
7	81	72	65	61	80	71	65	61	70	64	60	68	64	60	67	63	60	58					58			
8	77	67	61	57	76	67	61	56	65	60	56	64	59	56	63	59	56	54					54			
9	73	63	57	53	72	63	57	53	62	56	52	61	56	52	60	55	52	51					51			
10	70	59	53	49	69	59	53	49	58	53	49	57	52	49	57	52	49	47					47			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	238440	238440	238440	238440
5°	235675	237007	233606	231873
10°	225040	227584	220704	217024
15°	204706	208389	198208	193043
20°	179373	182978	172227	166352
25°	155108	158386	148140	142194
30°	133812	136363	126956	121633
35°	115001	117698	104795	99247
40°	82848	87850	73538	67104
45°	49059	54804	41857	36353
50°	20340	23777	14379	11983
55°	3450	4549	3450	2275
60°	1436	1349	1392	1140
65°	843	791	843	700
70°	561	561	561	497
75°	402	318	402	318
80°	253	253	253	253
85°	0	252	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 58316 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	398.5	9.8
10°-20°	985.0	24.3
20°-30°	1145.9	28.3
30°-40°	996.6	24.6
40°-50°	458.4	11.3
50°-60°	54.1	1.3
60°-70°	6.5	0.2
70°-80°	1.9	0.0
80°-90°	0.3	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°	2529.4	62.5
0°-40°	3526.0	87.1
0°-60°	4038.6	99.8
0°-90°	4047.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4047.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	4350	4350	4350	4350	4350	
5°	4283	4307	4245	4214	4283	401
15°	3607	3672	3492	3401	3607	1003
25°	2564	2618	2449	2351	2564	1177
35°	1718	1759	1566	1483	1718	1044
45°	633	707	540	469	633	497
55°	36	48	36	24	36	60
65°	6	6	6	5	6	7
75°	2	2	2	2	2	2
85°	0	0	0	0	0	0
90°	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°	4349.5	4349.5	4349.5	4349.5	4349.5	4349.5	4349.5	4349.5	4349.5	4349.5	4349.5
0.5°	4351.4	4354.5	4354.9	4351.4	4352.2	4349.9	4348.4	4349.1	4348.4	4348.7	4348.0
1°	4350.7	4354.9	4356.4	4354.5	4353.4	4349.9	4348.0	4346.4	4344.1	4343.8	4342.2
1.5°	4347.2	4353.4	4356.4	4355.7	4353.4	4348.7	4345.3	4341.8	4338.0	4336.1	4333.8
2°	4343.4	4351.1	4354.5	4355.3	4351.4	4346.4	4341.5	4335.3	4330.3	4326.9	4323.0
2.5°	4337.2	4346.4	4350.7	4353.4	4348.4	4341.5	4334.9	4326.9	4320.7	4315.7	4310.7
3°	4329.5	4340.3	4344.9	4350.3	4343.0	4335.7	4326.9	4317.6	4308.8	4302.7	4296.5
3.5°	4320.7	4332.2	4338.4	4345.3	4336.8	4328.4	4317.3	4306.5	4295.8	4287.3	4281.2
4°	4309.6	4322.6	4329.5	4338.4	4329.2	4318.8	4306.5	4292.7	4280.4	4270.8	4263.9
4.5°	4296.9	4311.5	4319.9	4329.5	4319.2	4307.3	4293.5	4278.1	4263.5	4252.4	4244.7
5°	4282.7	4298.8	4307.3	4319.9	4306.9	4294.6	4278.5	4261.6	4245.1	4232.0	4222.8
5.5°	4267.3	4284.6	4294.2	4307.7	4293.8	4279.2	4262.0	4243.9	4225.5	4210.5	4200.5
6°	4249.3	4268.1	4279.6	4294.6	4278.5	4262.7	4244.3	4222.4	4202.8	4186.7	4175.9
6.5°	4230.5	4251.2	4262.7	4279.2	4261.2	4244.7	4224.3	4200.5	4179.8	4162.9	4150.2
7°	4208.6	4230.9	4243.5	4262.7	4243.1	4225.1	4202.4	4177.5	4154.8	4136.8	4123.3
7.5°	4185.2	4209.4	4222.8	4243.5	4222.0	4201.7	4178.6	4153.3	4127.2	4107.6	4093.8
8°	4160.2	4185.2	4199.0	4222.8	4199.4	4177.1	4153.3	4125.3	4098.8	4077.6	4062.3
8.5°	4133.7	4160.6	4174.8	4200.1	4174.0	4152.5	4126.0	4095.7	4068.0	4045.8	4029.6
9°	4104.9	4133.3	4147.5	4174.4	4147.5	4124.9	4097.2	4065.0	4035.8	4011.6	3994.7
9.5°	4074.6	4103.8	4119.9	4147.5	4119.1	4094.9	4065.7	4033.9	4001.2	3976.3	3957.8
10°	4042.7	4072.3	4088.8	4118.7	4088.4	4063.4	4033.5	3997.4	3964.8	3938.6	3918.3
10.5°	4007.8	4040.8	4056.9	4088.4	4057.3	4031.2	3997.8	3960.9	3925.2	3896.0	3875.3
11°	3971.7	4005.5	4022.4	4056.5	4022.4	3995.1	3961.3	3921.0	3883.3	3850.3	3830.0
11.5°	3932.5	3967.1	3985.1	4022.0	3985.9	3957.5	3921.7	3879.5	3838.8	3805.8	3784.3
12°	3890.3	3927.5	3945.2	3984.3	3946.7	3916.8	3878.7	3834.2	3793.9	3760.1	3736.7
12.5°	3846.9	3884.5	3904.1	3944.4	3906.0	3874.1	3834.6	3789.7	3745.9	3710.9	3687.1
13°	3801.9	3840.7	3861.5	3902.9	3862.6	3830.4	3790.0	3742.8	3697.9	3661.0	3636.4
13.5°	3755.5	3795.4	3816.9	3859.9	3817.7	3783.9	3742.8	3694.4	3648.0	3609.9	3583.8
14°	3707.1	3748.6	3769.7	3816.1	3770.1	3737.0	3694.0	3644.1	3596.9	3559.6	3532.8
14.5°	3657.9	3699.8	3722.1	3767.0	3721.3	3686.7	3643.3	3593.0	3545.8	3505.1	3479.4
15°	3606.9	3650.3	3671.0	3720.5	3671.8	3636.1	3592.7	3541.6	3492.4	3452.9	3425.6
15.5°	3555.0	3598.8	3619.5	3670.2	3621.5	3585.0	3541.6	3489.4	3439.4	3399.1	3371.1
16°	3503.2	3547.3	3568.5	3618.8	3568.9	3532.8	3489.7	3435.6	3386.1	3345.8	3317.3
16.5°	3451.4	3495.5	3517.4	3567.3	3516.2	3480.5	3437.1	3383.4	3333.5	3290.8	3263.2
17°	3399.1	3442.5	3463.3	3515.1	3463.6	3427.2	3382.2	3329.2	3278.9	3235.9	3207.5
17.5°	3344.6	3389.1	3409.5	3461.0	3409.1	3371.9	3328.5	3276.2	3224.0	3181.8	3151.1
18°	3290.8	3334.6	3355.7	3407.2	3355.0	3317.7	3274.3	3221.7	3168.7	3125.7	3094.2
18.5°	3237.1	3281.2	3301.2	3352.3	3300.1	3264.0	3220.2	3165.3	3114.2	3070.0	3038.6
19°	3182.6	3227.5	3245.5	3297.0	3245.9	3209.8	3164.5	3110.7	3058.1	3014.0	2983.3
19.5°	3129.2	3173.0	3191.8	3242.1	3191.0	3155.3	3109.2	3057.8	3003.2	2962.1	2931.4
20°	3074.7	3118.0	3136.1	3187.5	3136.5	3100.0	3055.8	3002.1	2952.2	2910.3	2879.2
20.5°	3020.5	3065.1	3082.7	3131.9	3081.2	3045.1	3001.3	2951.0	2901.1	2858.5	2827.0
21°	2967.5	3011.7	3030.1	3079.3	3027.0	2991.7	2950.2	2899.9	2850.0	2806.6	2774.8



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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°	2812.0	2853.9	2870.7	2916.8	2871.9	2837.7	2797.4	2746.7	2695.3	2651.9	2619.6
23°	2761.3	2801.6	2819.3	2864.6	2820.4	2786.3	2746.3	2694.9	2645.3	2600.4	2570.1
23.5°	2711.8	2750.9	2768.2	2812.8	2769.4	2734.8	2694.1	2645.0	2595.0	2551.3	2520.5
24°	2661.1	2701.4	2717.2	2760.5	2717.9	2684.1	2643.4	2595.8	2545.9	2502.1	2470.6
24.5°	2613.1	2651.9	2666.5	2709.5	2668.0	2631.9	2593.9	2546.7	2496.7	2454.1	2422.6
25°	2564.3	2602.7	2617.3	2660.3	2618.5	2583.1	2544.0	2497.1	2449.1	2406.1	2375.0
25.5°	2516.3	2554.0	2568.5	2611.2	2568.5	2535.5	2495.6	2449.9	2402.3	2358.5	2328.9
26°	2469.1	2507.9	2520.5	2561.6	2520.2	2488.3	2448.4	2403.0	2355.4	2312.4	2282.9
26.5°	2423.0	2458.7	2473.3	2511.7	2472.5	2439.5	2401.1	2355.8	2308.6	2266.3	2235.2
27°	2376.2	2411.9	2425.3	2464.5	2424.9	2391.1	2353.9	2309.7	2262.9	2221.0	2190.3
27.5°	2330.1	2365.8	2378.5	2417.6	2377.7	2347.0	2308.2	2263.7	2217.6	2176.5	2145.8
28°	2285.2	2321.6	2332.4	2371.2	2330.9	2300.5	2262.1	2219.5	2173.4	2131.6	2102.4
28.5°	2240.2	2276.7	2287.1	2325.1	2285.9	2254.4	2217.6	2174.6	2128.9	2088.2	2059.0
29°	2197.6	2231.4	2242.5	2278.6	2241.0	2210.3	2174.9	2131.6	2087.4	2046.3	2016.7
29.5°	2155.8	2188.8	2198.0	2234.5	2197.6	2167.3	2131.6	2089.7	2045.5	2005.6	1976.4
30°	2113.9	2147.3	2156.5	2191.8	2154.2	2125.4	2089.7	2048.6	2005.6	1964.9	1936.9
30.5°	2073.2	2105.8	2115.4	2149.6	2112.7	2083.6	2049.0	2007.5	1965.3	1925.4	1898.1
31°	2033.6	2065.5	2074.7	2107.4	2072.8	2044.0	2008.7	1968.4	1925.7	1886.6	1858.9
31.5°	1993.7	2025.2	2034.4	2067.0	2032.9	2004.8	1969.5	1930.0	1887.7	1848.9	1822.1
32°	1956.5	1987.9	1996.0	2027.1	1994.5	1965.3	1932.3	1892.7	1850.1	1811.3	1784.0
32.5°	1919.2	1949.5	1957.6	1987.9	1955.3	1927.3	1893.5	1853.5	1812.5	1773.3	1747.2
33°	1882.0	1911.9	1920.0	1949.9	1918.8	1889.6	1855.5	1814.0	1771.8	1731.4	1704.2
33.5°	1842.8	1872.7	1880.0	1911.5	1880.0	1852.0	1814.8	1769.1	1726.1	1683.1	1653.5
34°	1804.0	1832.8	1837.0	1872.7	1842.0	1812.5	1771.8	1721.8	1676.5	1632.7	1603.6
34.5°	1760.6	1789.4	1790.6	1830.9	1801.7	1771.0	1724.9	1672.7	1621.2	1580.9	1549.0
35°	1718.4	1743.3	1744.1	1784.8	1758.7	1728.4	1678.1	1623.9	1565.9	1527.9	1496.0
35.5°	1671.5	1695.7	1697.6	1739.5	1714.5	1684.2	1630.4	1572.5	1507.9	1469.2	1444.2
36°	1621.6	1646.2	1650.4	1692.3	1668.5	1637.0	1582.8	1520.6	1453.8	1410.8	1392.0
36.5°	1566.7	1595.1	1603.2	1646.2	1617.8	1585.5	1532.5	1467.2	1400.0	1353.6	1335.5
37°	1507.2	1542.9	1555.6	1599.0	1565.9	1531.0	1481.1	1413.5	1348.6	1297.1	1281.0
37.5°	1445.4	1489.1	1506.8	1550.6	1511.0	1476.1	1428.5	1357.4	1296.4	1241.5	1223.8
38°	1385.5	1436.1	1455.7	1501.0	1454.6	1420.4	1375.1	1304.0	1244.9	1186.9	1167.7
38.5°	1328.6	1380.5	1403.5	1451.5	1396.6	1360.9	1319.8	1250.3	1191.2	1134.7	1108.2
39°	1271.8	1323.2	1350.9	1401.2	1339.0	1300.2	1264.9	1197.7	1138.2	1084.4	1054.1
39.5°	1214.6	1266.0	1297.9	1347.4	1283.3	1242.2	1207.3	1144.7	1083.3	1030.6	997.6
40°	1157.7	1208.8	1244.9	1293.7	1227.6	1186.9	1149.3	1092.5	1027.6	976.9	944.2
40.5°	1100.9	1152.0	1191.9	1239.9	1172.3	1131.3	1090.2	1040.2	973.0	925.4	888.9
41°	1046.8	1094.8	1139.3	1186.2	1119.3	1077.1	1031.4	987.6	922.4	874.0	836.3
41.5°	991.1	1039.1	1083.6	1132.4	1066.4	1020.7	973.8	934.3	872.1	823.3	783.0
42°	938.1	986.9	1027.6	1076.0	1014.5	967.7	917.7	880.1	823.3	773.0	731.5
42.5°	883.6	935.4	972.3	1020.3	961.5	915.4	863.2	826.7	776.1	724.6	682.7
43°	831.0	883.2	915.8	966.1	909.3	863.2	810.6	774.5	728.4	679.7	636.7
43.5°	778.0	829.0	859.0	911.6	857.5	809.8	758.4	722.3	680.1	632.1	590.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	632.8	678.9	698.5	752.2	706.9	660.1	612.9	572.5	539.9	499.2	465.4
45.5°	586.0	630.5	646.6	701.6	658.9	612.9	566.0	526.1	495.4	456.6	426.6
46°	542.2	583.3	597.5	650.9	613.6	566.4	521.8	481.1	452.7	416.6	390.5
46.5°	498.4	537.2	549.1	601.7	566.0	521.5	478.5	437.4	411.3	382.1	358.7
47°	456.2	493.1	501.5	553.0	519.5	480.8	436.6	400.1	373.2	347.9	327.2
47.5°	415.1	450.0	457.0	506.9	475.8	440.1	397.1	363.3	335.6	313.3	295.3
48°	376.7	407.8	414.3	460.8	434.3	400.1	361.7	326.4	297.6	279.2	263.4
48.5°	339.8	365.9	374.0	416.6	395.5	364.4	326.4	289.5	259.6	244.6	236.2
49°	304.9	327.2	335.6	376.7	356.3	328.7	291.5	252.7	226.9	216.6	210.4
49.5°	271.5	289.5	298.4	336.0	317.6	293.0	256.1	222.7	196.2	189.3	186.6
50°	238.5	253.8	263.4	298.7	278.8	257.7	226.2	195.1	168.6	165.5	164.4
50.5°	208.1	220.4	230.8	262.7	240.0	226.2	197.4	169.7	144.4	142.8	143.2
51°	179.3	190.1	200.4	230.0	207.7	195.8	171.6	146.3	123.3	123.3	124.0
51.5°	152.4	162.0	172.0	197.8	178.9	168.6	148.6	126.0	106.0	105.6	107.1
52°	127.5	137.5	145.5	169.3	151.7	142.5	127.1	106.8	90.6	89.9	91.4
52.5°	109.8	119.8	126.7	143.2	126.3	119.4	107.5	89.9	77.2	75.6	76.4
53°	92.2	102.1	107.9	124.8	104.4	98.7	89.5	75.3	65.7	63.4	63.4
53.5°	74.5	84.9	89.1	106.4	85.2	80.3	74.1	62.6	55.3	52.6	51.8
54°	57.2	67.2	70.3	87.9	68.7	64.9	60.7	51.5	46.1	46.5	45.7
54.5°	45.3	49.9	51.5	69.5	54.9	51.8	52.6	45.3	41.1	40.3	39.2
55°	36.1	39.2	40.3	51.1	47.6	45.3	44.5	39.2	36.1	33.8	32.6
55.5°	28.8	30.7	31.1	39.9	40.7	38.8	36.9	33.0	31.1	27.6	26.5
56°	24.2	25.0	24.6	30.7	33.4	32.3	29.2	27.3	26.1	21.5	20.0
56.5°	21.5	21.9	21.5	24.2	26.1	25.7	21.5	21.1	21.1	19.6	18.4
57°	20.0	20.0	19.6	20.7	19.2	19.2	19.6	19.6	19.6	18.4	17.3
57.5°	18.8	18.8	18.0	18.8	17.7	17.7	18.0	18.4	18.0	17.3	16.1
58°	17.3	17.3	16.9	17.3	16.5	16.5	16.9	17.3	16.9	16.1	15.0
58.5°	16.1	16.1	15.4	16.1	15.4	15.4	15.7	16.1	15.7	15.0	13.8
59°	15.0	15.0	14.6	15.0	14.2	14.2	14.6	15.0	14.6	13.8	13.1
59.5°	14.2	13.8	13.4	13.8	13.1	13.1	13.4	13.8	13.8	13.1	11.9
60°	13.1	13.1	12.7	13.1	12.3	12.3	12.7	12.7	12.7	11.9	11.1
60.5°	12.3	11.9	11.5	11.9	11.5	11.5	11.5	11.9	11.9	11.1	10.4
61°	11.1	11.1	10.8	11.1	10.4	10.8	10.8	11.1	11.1	10.4	9.6
61.5°	10.4	10.4	10.0	10.4	10.0	10.0	10.0	10.4	10.4	9.6	9.2
62°	9.6	9.6	9.2	9.6	9.2	9.2	9.6	9.6	9.6	9.2	8.4
62.5°	9.2	9.2	8.4	8.8	8.4	8.4	8.8	9.2	9.2	8.4	8.1
63°	8.4	8.4	8.1	8.4	8.1	8.1	8.1	8.4	8.4	8.1	7.3
63.5°	8.1	8.1	7.7	7.7	7.3	7.7	7.7	8.1	8.1	7.7	6.9
64°	7.7	7.3	6.9	7.3	6.9	6.9	7.3	7.7	7.7	7.3	6.5
64.5°	6.9	6.9	6.5	6.9	6.5	6.5	6.9	6.9	6.9	6.5	6.1
65°	6.5	6.5	6.1	6.5	6.1	6.1	6.5	6.5	6.5	6.1	5.8
65.5°	6.1	6.1	5.8	6.1	5.8	5.8	6.1	6.1	6.1	5.8	5.4
66°	5.8	5.8	5.4	5.8	5.4	5.4	5.8	5.8	5.8	5.4	5.0





TEST NUMBER: P776365  
 CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	5.0	4.6	4.6	4.6	4.6	4.6	4.6	5.0	5.0	4.6	4.2
68°	4.6	4.6	4.2	4.2	4.2	4.2	4.2	4.6	4.6	4.2	4.2
68.5°	4.2	4.2	3.8	4.2	3.8	3.8	4.2	4.2	4.2	4.2	3.8
69°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	4.2	4.2	3.8	3.5
69.5°	3.8	3.8	3.5	3.5	3.5	3.5	3.8	3.8	3.8	3.5	3.5
70°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.1
70.5°	3.5	3.1	3.1	3.1	3.1	3.1	3.1	3.5	3.5	3.1	3.1
71°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.7
71.5°	3.1	2.7	2.7	2.7	2.7	2.7	2.7	3.1	3.1	2.7	2.7
72°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.3
72.5°	2.7	2.7	2.3	2.3	2.3	2.3	2.7	2.7	2.7	2.3	2.3
73°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
73.5°	2.3	2.3	2.3	2.3	1.9	2.3	2.3	2.3	2.3	2.3	1.9
74°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	2.3	1.9	1.9
74.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
75°	1.9	1.9	1.5	1.9	1.5	1.9	1.9	1.9	1.9	1.9	1.5
75.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.9	1.9	1.5	1.5
76°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
76.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.2
77°	1.5	1.2	1.2	1.5	1.2	1.2	1.5	1.5	1.5	1.2	1.2
77.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
78°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
78.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
79°	1.2	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8
79.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
81°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
81.5°	0.8	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4
82°	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.4
85°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.4	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: P776365  
CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-2700K

**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: P776365

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4349.5	4349.5	4349.5	4349.5	4349.5	4349.5
0.5°	4340.3	4343.4	4343.4	4345.3	4348.4	4351.4
1°	4332.2	4336.8	4337.6	4341.1	4345.3	4350.7
1.5°	4321.9	4327.2	4329.2	4334.2	4341.1	4347.2
2°	4309.2	4316.9	4319.9	4326.5	4334.9	4343.4
2.5°	4295.0	4303.8	4307.7	4316.9	4327.6	4337.2
3°	4278.9	4289.2	4294.6	4305.0	4318.0	4329.5
3.5°	4260.8	4273.9	4279.6	4291.9	4306.5	4320.7
4°	4241.6	4254.7	4263.1	4276.6	4293.5	4309.6
4.5°	4220.1	4235.5	4244.3	4259.7	4278.9	4296.9
5°	4197.5	4213.6	4223.9	4240.8	4262.7	4282.7
5.5°	4172.1	4190.9	4201.7	4220.5	4245.1	4267.3
6°	4146.4	4166.7	4178.6	4198.6	4225.9	4249.3
6.5°	4118.4	4139.5	4153.7	4175.6	4204.4	4230.5
7°	4089.2	4111.4	4126.8	4150.6	4180.9	4208.6
7.5°	4058.4	4081.1	4097.6	4123.0	4155.6	4185.2
8°	4024.3	4049.2	4066.5	4094.2	4128.3	4160.2
8.5°	3988.6	4015.4	4034.6	4062.7	4099.9	4133.7
9°	3951.3	3978.6	3998.9	4029.6	4068.4	4104.9
9.5°	3911.4	3940.9	3962.1	3995.1	4036.2	4074.6
10°	3868.8	3898.7	3921.0	3958.2	4002.8	4042.7
10.5°	3822.7	3856.1	3879.9	3918.7	3965.9	4007.8
11°	3775.1	3811.5	3836.1	3875.7	3926.7	3971.7
11.5°	3727.8	3762.8	3792.0	3831.9	3884.5	3932.5
12°	3678.3	3714.8	3742.0	3787.3	3840.7	3890.3
12.5°	3627.6	3664.1	3692.9	3739.7	3795.8	3846.9
13°	3576.1	3613.4	3644.9	3692.1	3750.1	3801.9
13.5°	3523.5	3561.2	3594.2	3641.0	3700.9	3755.5
14°	3470.6	3509.7	3540.8	3589.6	3651.8	3707.1
14.5°	3415.6	3456.3	3487.8	3539.7	3600.7	3657.9
15°	3363.0	3401.4	3434.5	3486.3	3549.7	3606.9
15.5°	3307.7	3346.9	3381.5	3433.3	3497.4	3555.0
16°	3252.1	3292.0	3326.6	3377.6	3444.4	3503.2
16.5°	3197.1	3237.5	3272.4	3325.4	3391.4	3451.4
17°	3141.1	3182.6	3217.1	3271.3	3338.8	3399.1
17.5°	3086.2	3126.5	3161.8	3216.3	3284.7	3344.6
18°	3027.8	3070.0	3105.0	3159.9	3230.2	3290.8
18.5°	2973.7	3013.2	3049.3	3104.2	3175.6	3237.1
19°	2919.9	2958.7	2993.6	3051.6	3120.7	3182.6
19.5°	2866.1	2905.3	2940.6	2998.6	3067.7	3129.2
20°	2812.4	2851.5	2888.8	2944.5	3014.0	3074.7
20.5°	2759.0	2799.3	2836.2	2891.5	2961.4	3020.5
21°	2711.8	2745.2	2782.4	2838.1	2907.2	2967.5

TEST NUMBER: P776365

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2560.1	2592.7	2630.4	2686.8	2753.2	2812.0
23°	2510.6	2543.2	2579.7	2635.4	2702.6	2761.3
23.5°	2461.8	2494.0	2531.7	2587.4	2653.4	2711.8
24°	2414.9	2446.4	2483.7	2537.4	2604.6	2661.1
24.5°	2366.2	2398.8	2435.3	2490.6	2555.1	2613.1
25°	2320.5	2350.8	2388.1	2441.1	2507.5	2564.3
25.5°	2273.3	2305.1	2342.4	2395.4	2460.3	2516.3
26°	2227.6	2259.4	2296.7	2349.3	2413.8	2469.1
26.5°	2183.0	2214.9	2251.7	2304.0	2367.3	2423.0
27°	2138.1	2170.0	2206.4	2259.0	2321.6	2376.2
27.5°	2093.9	2126.6	2161.9	2214.1	2276.3	2330.1
28°	2051.7	2082.8	2118.5	2168.8	2231.8	2285.2
28.5°	2010.6	2040.6	2076.6	2126.6	2188.0	2240.2
29°	1970.7	2000.2	2035.9	2085.9	2145.8	2197.6
29.5°	1929.6	1960.3	1994.5	2044.4	2103.5	2155.8
30°	1890.4	1921.5	1955.7	2004.5	2063.6	2113.9
30.5°	1852.8	1883.1	1916.9	1964.5	2023.7	2073.2
31°	1815.9	1845.5	1880.0	1927.3	1984.5	2033.6
31.5°	1778.3	1808.2	1843.2	1890.0	1945.3	1993.7
32°	1740.3	1771.4	1805.2	1852.4	1908.1	1956.5
32.5°	1698.8	1734.5	1768.3	1815.9	1871.6	1919.2
33°	1652.3	1691.1	1726.8	1774.8	1834.7	1882.0
33.5°	1601.6	1643.1	1680.7	1729.9	1794.0	1842.8
34°	1546.7	1592.4	1631.2	1682.3	1749.5	1804.0
34.5°	1492.2	1537.9	1577.1	1635.8	1704.2	1760.6
35°	1438.8	1483.0	1522.2	1585.1	1656.6	1718.4
35.5°	1385.1	1425.0	1467.2	1535.6	1607.4	1671.5
36°	1330.2	1361.6	1413.9	1483.8	1556.3	1621.6
36.5°	1272.9	1307.9	1380.1	1430.8	1504.5	1566.7
37°	1216.1	1254.9	1323.6	1378.2	1451.5	1507.2
37.5°	1160.4	1201.9	1266.8	1322.9	1395.8	1445.4
38°	1102.5	1148.5	1210.0	1267.6	1337.5	1385.5
38.5°	1046.4	1096.7	1153.1	1212.3	1279.1	1328.6
39°	992.6	1043.7	1099.8	1157.0	1220.7	1271.8
39.5°	940.0	990.7	1044.1	1101.7	1162.4	1214.6
40°	887.0	937.7	988.8	1047.2	1103.6	1157.7
40.5°	836.3	885.9	934.3	993.4	1044.9	1100.9
41°	785.7	834.8	880.5	939.6	986.1	1046.8
41.5°	734.2	783.7	829.0	884.3	927.3	991.1
42°	683.9	736.9	779.1	832.5	872.8	938.1
42.5°	637.8	688.1	731.5	778.4	818.3	883.6
43°	590.6	644.7	683.9	725.4	768.0	831.0
43.5°	546.4	599.0	635.9	671.2	716.2	778.0



TEST NUMBER: P776365

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	425.5	468.9	497.3	523.0	575.2	632.8
45.5°	389.4	428.2	453.5	478.5	530.3	586.0
46°	357.1	387.8	411.3	435.5	488.1	542.2
46.5°	324.9	349.1	370.2	395.1	447.0	498.4
47°	292.6	313.3	331.8	357.1	407.4	456.2
47.5°	260.3	279.5	295.3	320.6	369.0	415.1
48°	233.1	246.9	261.1	286.5	332.5	376.7
48.5°	207.4	217.0	228.9	254.6	297.6	339.8
49°	182.4	189.7	198.5	225.4	264.2	304.9
49.5°	160.1	164.4	170.9	198.5	233.5	271.5
50°	139.8	140.5	146.3	172.8	204.3	238.5
50.5°	120.6	125.2	130.2	149.8	177.8	208.1
51°	103.3	109.4	114.0	128.6	153.6	179.3
51.5°	87.2	94.1	97.9	112.5	130.9	152.4
52°	73.3	78.7	81.8	96.8	114.0	127.5
52.5°	60.7	63.0	65.7	80.6	97.2	109.8
53°	49.5	52.6	55.3	64.9	80.6	92.2
53.5°	43.4	43.0	45.7	53.4	64.1	74.5
54°	37.6	35.3	37.6	43.0	51.5	57.2
54.5°	31.5	28.8	30.7	34.6	41.1	45.3
55°	25.3	23.8	25.0	27.6	32.6	36.1
55.5°	19.2	20.4	21.1	23.0	26.1	28.8
56°	17.7	18.4	19.2	20.4	22.7	24.2
56.5°	16.5	17.3	17.7	18.8	20.4	21.5
57°	15.4	16.1	16.5	17.7	18.8	20.0
57.5°	14.6	15.0	15.4	16.1	17.7	18.8
58°	13.4	14.2	14.6	15.0	16.5	17.3
58.5°	12.3	13.1	13.4	14.2	15.4	16.1
59°	11.5	12.3	12.7	13.1	14.2	15.0
59.5°	10.8	11.1	11.5	12.3	13.4	14.2
60°	10.0	10.4	10.8	11.1	12.3	13.1
60.5°	9.2	9.6	10.0	10.4	11.5	12.3
61°	8.8	9.2	9.2	9.6	10.4	11.1
61.5°	8.1	8.4	8.8	9.2	10.0	10.4
62°	7.7	8.1	8.1	8.4	9.2	9.6
62.5°	7.3	7.3	7.7	8.1	8.4	9.2
63°	6.9	6.9	7.3	7.3	8.1	8.4
63.5°	6.5	6.5	6.5	6.9	7.7	8.1
64°	6.1	6.1	6.1	6.5	7.3	7.7
64.5°	5.8	5.8	5.8	6.1	6.5	6.9
65°	5.4	5.4	5.4	5.8	6.1	6.5
65.5°	5.0	5.0	5.4	5.4	5.8	6.1
66°	4.6	5.0	5.0	5.0	5.4	5.8



TEST NUMBER: P776365

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	3.8	3.8	4.2	4.2	4.6	5.0
68°	3.8	3.8	3.8	3.8	4.2	4.6
68.5°	3.5	3.5	3.5	3.8	4.2	4.2
69°	3.1	3.5	3.5	3.5	3.8	3.8
69.5°	3.1	3.1	3.1	3.5	3.5	3.8
70°	2.7	3.1	3.1	3.1	3.5	3.5
70.5°	2.7	2.7	2.7	3.1	3.1	3.5
71°	2.7	2.7	2.7	2.7	3.1	3.1
71.5°	2.3	2.3	2.3	2.7	2.7	3.1
72°	2.3	2.3	2.3	2.3	2.7	2.7
72.5°	1.9	2.3	2.3	2.3	2.3	2.7
73°	1.9	1.9	1.9	2.3	2.3	2.3
73.5°	1.9	1.9	1.9	1.9	2.3	2.3
74°	1.9	1.9	1.9	1.9	1.9	1.9
74.5°	1.5	1.5	1.5	1.9	1.9	1.9
75°	1.5	1.5	1.5	1.5	1.5	1.9
75.5°	1.5	1.5	1.5	1.5	1.5	1.5
76°	1.2	1.5	1.5	1.5	1.5	1.5
76.5°	1.2	1.2	1.2	1.2	1.5	1.5
77°	1.2	1.2	1.2	1.2	1.2	1.5
77.5°	1.2	1.2	1.2	1.2	1.2	1.2
78°	1.2	1.2	1.2	1.2	1.2	1.2
78.5°	0.8	0.8	0.8	0.8	1.2	1.2
79°	0.8	0.8	0.8	0.8	0.8	1.2
79.5°	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8
80.5°	0.8	0.8	0.8	0.8	0.8	0.8
81°	0.4	0.8	0.8	0.8	0.8	0.8
81.5°	0.4	0.4	0.4	0.4	0.4	0.8
82°	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4
83°	0.4	0.4	0.4	0.4	0.4	0.4
83.5°	0.4	0.4	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.0	0.4
85°	0.0	0.0	0.4	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: P776365

CATALOG NUMBER: HCDJBL3040CSD-HCD62TRH-4000lm-2700K

**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°	2915.7	2956.8	2976.7	3026.3	2974.4	2940.3	2899.2	2848.9	2798.6	2754.8	2722.9
22°	2862.7	2904.2	2922.2	2971.4	2923.4	2889.2	2848.5	2797.8	2747.5	2702.2	2671.1



44°	728.8	778.0	805.6	857.5	806.0	756.5	708.1	670.8	632.1	586.7	546.8
44.5°	681.2	728.1	751.5	803.7	755.7	707.7	660.1	620.2	585.2	541.4	505.0



66.5°	5.4	5.4	5.0	5.4	5.0	5.0	5.4	5.4	5.4	5.4	5.0
67°	5.0	5.0	5.0	5.0	4.6	5.0	5.0	5.0	5.4	5.0	4.6



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°	2661.5	2694.1	2732.1	2787.8	2855.8	2915.7
22°	2610.0	2642.7	2679.5	2735.6	2804.7	2862.7



44°	503.4	554.5	588.7	620.5	667.0	728.8
44.5°	463.9	510.7	542.6	569.5	620.2	681.2

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66.5°	4.2	4.6	4.6	5.0	5.4	5.4
67°	4.2	4.2	4.2	4.6	5.0	5.0

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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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Scaled Data Report



(END OF REPORT)