

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: P776266

Luminaire Tested: HCDJBL3040CSD-HCD42TRH-4000lm-3000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776266  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B050)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL3040CSD-HCD42TRH-4000lm-3000K  
Description: 4 INCH ROUND NARROW HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

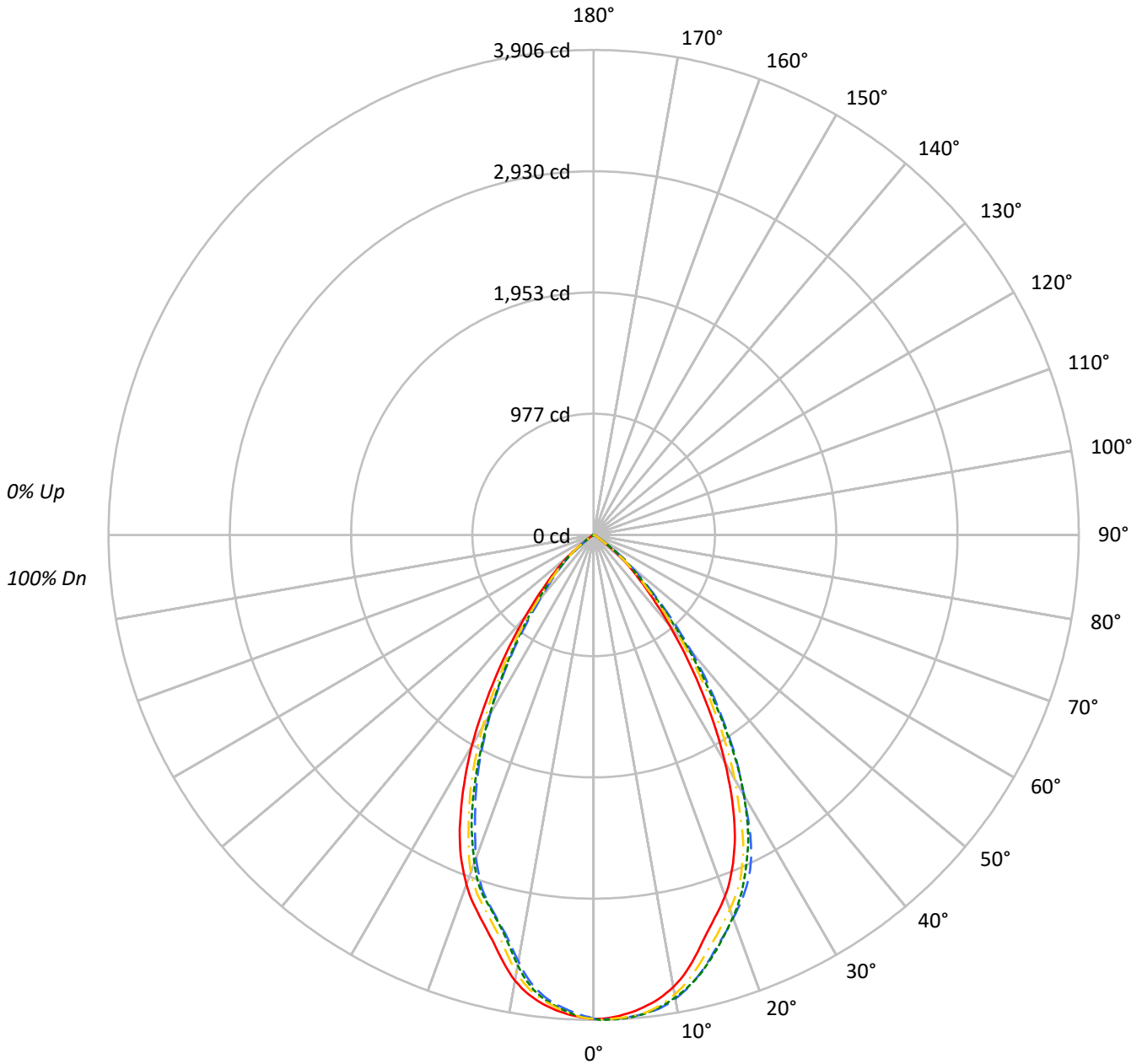
Lumens per Lamp: N/A  
Luminaire Lumens: 3931.4 lumens  
Efficiency: N/A  
Efficacy: 102.1 lumens/watt  
Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.92  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93																			
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	86																			
3	101	95	89	85	99	93	88	84	90	86	83	88	85	82	86	83	80	79																			
4	96	88	82	77	94	87	81	77	84	80	76	82	78	75	80	77	74	73																			
5	90	82	75	71	89	81	75	70	79	74	70	77	73	69	76	72	69	67																			
6	86	76	70	65	84	75	69	65	74	68	64	72	68	64	71	67	64	62																			
7	81	71	65	60	80	70	64	60	69	64	60	68	63	59	67	62	59	58																			
8	77	67	60	56	75	66	60	56	65	59	56	64	59	55	63	58	55	54																			
9	73	63	56	52	72	62	56	52	61	56	52	60	55	52	59	55	51	50																			
10	69	59	53	49	68	58	53	49	58	52	48	57	52	48	56	51	48	47																			

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

	0°	90°	180°	270°
0°	490323	490323	490323	490323
5°	486069	491451	483745	479589
10°	472483	483383	465786	449927
15°	441746	464586	430476	409877
20°	414462	439145	401244	376200
25°	373589	404568	353315	317073
30°	307422	351337	284970	243961
35°	228577	272716	206945	175911
40°	156153	190177	139511	119649
45°	100291	118818	88936	76121
50°	60381	68800	51786	41918
55°	23016	27229	16324	12704
60°	7778	9162	6494	5210
65°	3722	3961	3037	2442
70°	1729	2024	1435	1288
75°	972	1118	778	778
80°	580	580	290	290
85°	0	578	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 132185 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	360.9	9.2
10°-20°	940.9	23.9
20°-30°	1180.5	30.0
30°-40°	901.4	22.9
40°-50°	429.6	10.9
50°-60°	102.8	2.6
60°-70°	12.8	0.3
70°-80°	2.3	0.1
80°-90°	0.2	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°	2482.3	63.1
0°-40°	3383.7	86.1
0°-60°	3916.1	99.6
0°-90°	3931.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3931.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3896	3896	3896	3896	3896	
5°	3848	3890	3829	3796	3848	363
15°	3390	3566	3304	3146	3390	953
25°	2690	2914	2544	2283	2690	1217
35°	1488	1775	1347	1145	1488	930
45°	564	668	500	428	564	446
55°	105	124	74	58	105	113
65°	12	13	10	8	12	14
75°	2	2	2	2	2	2
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°	3896.1	3896.1	3896.1	3896.1	3896.1	3896.1	3896.1	3896.1	3896.1	3896.1	3896.1
0.5°	3897.3	3896.5	3896.1	3895.3	3903.5	3902.8	3901.2	3898.5	3894.1	3887.5	3884.4
1°	3896.9	3898.8	3900.0	3899.2	3905.5	3905.1	3902.0	3897.7	3890.6	3881.2	3877.3
1.5°	3894.5	3898.8	3901.2	3902.0	3906.3	3905.5	3901.6	3896.1	3887.1	3873.0	3867.1
2°	3890.6	3898.5	3902.0	3903.5	3905.9	3905.5	3900.8	3893.8	3880.8	3864.4	3856.6
2.5°	3885.9	3896.1	3901.2	3903.5	3904.7	3904.3	3899.2	3890.6	3874.6	3854.6	3846.0
3°	3879.7	3892.6	3899.2	3903.1	3903.5	3903.1	3896.9	3886.7	3867.1	3844.4	3834.3
3.5°	3872.6	3889.8	3896.9	3901.6	3901.2	3901.2	3894.5	3882.4	3859.3	3833.1	3821.8
4°	3864.8	3885.1	3893.8	3900.0	3898.5	3899.2	3892.2	3877.3	3849.9	3821.8	3808.4
4.5°	3856.2	3879.7	3891.0	3896.9	3895.3	3896.1	3888.7	3871.5	3840.5	3808.8	3794.8
5°	3847.6	3873.8	3887.9	3894.1	3890.2	3892.2	3884.4	3864.0	3829.2	3795.1	3778.7
5.5°	3837.4	3867.9	3883.6	3891.0	3885.5	3887.5	3878.9	3855.4	3817.8	3780.7	3761.5
6°	3826.1	3860.9	3879.3	3887.1	3878.1	3881.2	3871.8	3846.4	3804.9	3764.6	3743.1
6.5°	3813.9	3853.1	3873.8	3881.2	3870.7	3873.0	3863.2	3835.4	3790.8	3746.6	3721.2
7°	3801.4	3844.4	3867.1	3875.0	3861.7	3864.0	3853.5	3823.3	3775.2	3726.7	3697.3
7.5°	3788.1	3833.9	3859.3	3867.5	3850.7	3852.7	3840.5	3808.8	3758.4	3703.6	3670.7
8°	3772.4	3821.8	3849.5	3858.5	3839.0	3840.1	3827.2	3793.6	3740.0	3678.9	3639.8
8.5°	3756.0	3808.1	3837.4	3847.6	3825.7	3826.4	3811.6	3777.1	3718.8	3651.1	3607.3
9°	3737.6	3793.2	3824.1	3835.1	3812.8	3810.4	3795.1	3759.1	3696.5	3620.6	3570.1
9.5°	3718.4	3777.1	3809.2	3821.8	3797.5	3795.1	3776.7	3740.0	3671.5	3586.6	3531.4
10°	3697.3	3759.1	3792.8	3806.9	3782.6	3777.1	3757.6	3718.0	3644.9	3549.8	3487.9
10.5°	3673.8	3739.6	3775.2	3791.6	3766.2	3759.1	3736.8	3695.0	3615.5	3510.3	3446.9
11°	3649.2	3719.6	3755.6	3774.8	3749.0	3739.6	3714.5	3669.1	3582.3	3470.7	3404.2
11.5°	3622.2	3697.7	3736.4	3757.2	3731.4	3718.8	3689.9	3642.5	3547.8	3430.4	3361.9
12°	3593.2	3674.2	3714.9	3739.6	3711.4	3697.3	3664.8	3614.3	3511.8	3390.1	3324.0
12.5°	3562.3	3648.4	3691.8	3719.2	3690.7	3673.0	3638.6	3583.8	3475.4	3353.7	3288.8
13°	3528.6	3621.4	3667.6	3698.9	3669.5	3649.2	3610.0	3551.7	3438.2	3318.9	3255.9
13.5°	3493.8	3592.8	3641.7	3676.6	3646.4	3622.6	3581.1	3519.3	3402.6	3284.8	3225.8
14°	3459.8	3563.9	3615.5	3653.9	3621.8	3595.6	3551.3	3485.6	3367.4	3252.8	3195.6
14.5°	3425.7	3533.3	3588.5	3630.0	3594.0	3567.0	3520.8	3451.6	3335.3	3223.0	3165.9
15°	3390.5	3500.9	3560.7	3603.4	3565.8	3538.4	3489.9	3419.5	3304.0	3192.5	3136.5
15.5°	3357.6	3469.9	3532.2	3578.0	3538.8	3509.5	3459.4	3388.2	3273.9	3163.9	3109.1
16°	3325.5	3438.6	3500.9	3549.4	3510.3	3481.3	3431.6	3357.6	3243.4	3135.0	3081.0
16.5°	3296.6	3408.1	3471.9	3522.0	3483.2	3452.3	3403.8	3327.9	3214.4	3106.8	3052.0
17°	3266.5	3377.6	3444.9	3493.8	3454.3	3424.9	3376.4	3297.8	3185.4	3078.2	3021.5
17.5°	3237.1	3349.4	3417.9	3466.4	3425.3	3396.8	3347.8	3268.8	3156.9	3047.3	2989.0
18°	3208.1	3321.6	3390.9	3439.0	3396.4	3367.8	3319.3	3240.6	3128.7	3014.4	2946.0
18.5°	3180.4	3293.5	3365.1	3411.2	3365.9	3340.0	3291.5	3212.4	3098.2	2973.0	2902.9
19°	3153.0	3266.8	3339.2	3383.9	3336.9	3311.5	3264.1	3185.1	3065.7	2931.9	2859.9
19.5°	3124.4	3239.1	3311.8	3354.9	3307.2	3284.5	3236.7	3156.9	3031.3	2890.4	2816.8
20°	3094.7	3212.4	3285.2	3327.1	3279.0	3255.9	3208.9	3127.5	2996.0	2848.9	2770.6
20.5°	3063.0	3185.8	3259.0	3299.7	3249.2	3226.5	3180.0	3096.6	2956.1	2807.4	2717.8
21°	3028.1	3158.8	3232.4	3271.1	3216.4	3197.2	3151.0	3063.4	2916.2	2755.8	2659.5



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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°	2913.1	3067.3	3147.5	3182.3	3113.8	3095.8	3054.0	2951.4	2796.5	2593.8	2497.9
23°	2871.6	3034.0	3116.6	3148.3	3075.9	3061.4	3019.9	2909.9	2750.7	2543.7	2443.1
23.5°	2827.8	2998.8	3085.7	3114.6	3036.0	3021.5	2976.5	2868.5	2701.8	2494.4	2391.4
24°	2783.2	2960.0	3052.0	3079.0	2996.4	2979.2	2932.6	2827.0	2651.3	2443.9	2339.8
24.5°	2738.2	2919.3	3016.4	3039.5	2955.0	2936.6	2889.2	2787.9	2599.6	2395.7	2287.7
25°	2690.4	2876.3	2978.4	3000.7	2913.5	2894.3	2845.8	2739.7	2544.4	2345.6	2234.1
25.5°	2639.9	2831.3	2935.8	2957.7	2871.6	2851.6	2801.9	2690.4	2487.7	2292.4	2178.9
26°	2586.7	2783.9	2891.9	2913.9	2830.1	2809.4	2744.4	2638.4	2429.8	2237.6	2122.6
26.5°	2531.1	2733.8	2841.5	2869.6	2788.2	2759.3	2685.3	2582.4	2372.6	2180.1	2065.5
27°	2474.8	2682.2	2789.0	2824.6	2741.7	2707.6	2621.9	2522.5	2316.7	2119.1	2006.0
27.5°	2417.3	2627.4	2730.7	2779.6	2692.4	2654.8	2560.5	2463.4	2257.6	2058.4	1948.1
28°	2357.4	2569.9	2668.1	2728.8	2641.1	2600.0	2499.4	2400.8	2200.5	1997.4	1890.1
28.5°	2297.5	2507.7	2605.9	2677.9	2585.1	2542.5	2440.7	2335.1	2142.2	1937.1	1833.8
29°	2235.7	2443.5	2541.3	2625.1	2532.7	2481.0	2383.2	2270.5	2083.8	1876.4	1775.9
29.5°	2177.0	2378.1	2478.7	2569.9	2474.0	2420.8	2326.1	2207.9	2023.2	1818.9	1719.5
30°	2115.5	2313.2	2418.0	2511.2	2417.7	2357.0	2268.6	2142.9	1961.0	1762.6	1664.7
30.5°	2052.5	2248.2	2360.1	2450.1	2359.0	2292.4	2211.0	2079.9	1899.5	1705.4	1609.6
31°	1990.3	2185.6	2303.4	2389.1	2301.8	2231.4	2152.3	2015.8	1837.3	1649.9	1552.8
31.5°	1926.9	2122.6	2246.2	2322.9	2239.2	2169.2	2090.9	1953.9	1773.9	1592.7	1496.1
32°	1863.5	2061.1	2188.3	2260.3	2178.2	2110.1	2029.1	1891.3	1709.3	1534.0	1438.9
32.5°	1800.5	1998.9	2128.5	2195.8	2111.2	2049.0	1966.1	1829.5	1644.4	1474.9	1382.6
33°	1737.1	1937.5	2068.2	2132.8	2045.5	1988.0	1901.9	1768.4	1582.9	1415.8	1326.2
33.5°	1675.7	1874.9	2003.6	2070.5	1977.0	1928.1	1838.5	1707.8	1520.3	1356.4	1269.5
34°	1611.5	1811.9	1940.2	2008.7	1910.5	1867.0	1776.3	1647.1	1460.5	1296.1	1215.1
34.5°	1549.7	1748.1	1876.0	1946.5	1842.8	1804.4	1714.8	1587.2	1402.5	1239.7	1161.9
35°	1487.8	1685.9	1811.1	1884.7	1775.1	1741.4	1655.3	1530.1	1347.0	1183.4	1110.6
35.5°	1426.8	1624.4	1748.9	1822.4	1709.3	1678.0	1597.0	1473.0	1289.8	1129.8	1058.6
36°	1371.2	1564.5	1689.4	1759.8	1644.4	1615.8	1538.7	1416.2	1235.8	1076.2	1007.7
36.5°	1315.3	1506.6	1631.1	1695.3	1577.1	1553.2	1479.2	1361.4	1181.8	1025.7	958.8
37°	1259.3	1449.1	1571.2	1635.4	1513.3	1490.6	1420.5	1306.7	1130.2	977.2	909.5
37.5°	1203.7	1386.1	1513.7	1571.2	1450.7	1430.3	1359.5	1253.8	1078.9	929.4	863.7
38°	1147.8	1334.4	1455.0	1509.8	1391.6	1371.6	1300.4	1199.0	1031.6	882.8	817.9
38.5°	1094.9	1282.4	1393.9	1446.0	1328.2	1312.1	1242.9	1145.4	981.5	837.1	774.8
39°	1045.2	1230.7	1336.4	1388.8	1271.4	1253.8	1186.5	1092.6	936.1	794.0	734.9
39.5°	997.1	1179.1	1278.9	1329.4	1214.7	1194.3	1131.7	1042.1	891.5	753.3	698.9
40°	950.5	1125.9	1221.0	1270.3	1157.6	1136.0	1077.3	990.5	849.2	715.4	664.1
40.5°	903.6	1074.6	1163.4	1211.2	1100.4	1079.3	1026.1	940.8	806.1	679.4	630.8
41°	859.4	1021.8	1107.5	1152.1	1047.6	1024.1	977.2	893.8	766.2	646.5	601.1
41.5°	817.1	972.1	1055.8	1096.5	993.6	968.9	928.2	849.2	728.3	614.4	574.1
42°	776.0	922.0	1004.6	1041.7	944.3	915.3	878.9	804.6	691.9	586.2	546.7
42.5°	736.9	874.6	954.5	988.5	893.8	864.8	831.6	763.1	655.9	557.3	520.5
43°	700.1	829.6	906.3	935.3	845.7	815.9	785.0	722.4	621.8	530.3	495.4
43.5°	662.9	785.8	857.8	884.4	798.7	770.1	739.6	683.7	589.7	504.0	470.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	563.5	664.1	718.5	742.7	667.6	643.4	614.0	576.4	499.7	430.5	401.1
45.5°	533.0	626.9	675.0	700.5	627.7	605.8	578.0	543.6	472.3	407.4	379.2
46°	502.9	590.9	633.6	659.0	588.2	570.2	543.2	512.6	445.7	384.7	359.6
46.5°	474.7	558.4	597.6	621.0	552.2	536.1	511.1	482.9	420.3	363.2	340.1
47°	447.7	526.3	562.7	583.9	517.0	503.3	480.6	453.9	394.9	342.8	320.1
47.5°	421.9	495.8	529.1	549.0	485.3	472.7	452.4	426.6	372.2	322.8	300.5
48°	396.8	466.5	497.8	516.2	454.7	443.8	425.0	400.7	350.6	302.5	281.0
48.5°	372.2	438.7	468.8	484.1	425.4	416.0	399.2	376.1	329.5	282.5	259.1
49°	349.5	411.7	440.6	455.5	398.8	389.8	374.5	354.2	308.0	259.5	234.8
49.5°	329.5	386.2	414.0	426.2	372.9	367.9	353.0	332.2	286.5	234.4	210.1
50°	308.4	362.4	388.2	400.3	351.4	345.9	331.5	310.7	264.5	209.8	185.5
50.5°	288.4	340.1	363.9	373.3	329.9	323.6	309.5	288.8	238.7	185.1	163.6
51°	267.3	318.2	341.2	350.2	308.0	301.7	288.0	266.9	212.9	162.0	142.4
51.5°	243.8	297.4	319.7	327.9	286.5	279.8	266.1	241.8	187.8	141.3	123.7
52°	218.8	275.9	297.8	306.4	264.5	257.5	240.7	216.0	164.4	123.7	108.4
52.5°	194.5	252.4	275.9	286.1	240.7	232.8	214.5	190.2	143.2	108.0	95.1
53°	170.2	226.6	252.0	263.4	214.8	206.6	188.6	166.3	124.8	95.1	83.7
53.5°	148.3	201.1	225.8	239.5	190.2	181.2	165.1	144.4	109.2	83.7	74.0
54°	133.8	176.1	198.8	212.9	165.5	158.1	142.8	126.0	95.9	74.4	65.7
54.5°	119.4	153.8	173.8	187.8	143.2	137.0	123.7	110.0	84.5	65.7	58.7
55°	104.9	133.1	151.4	162.4	124.1	118.6	107.6	96.3	74.4	58.7	52.4
55.5°	90.4	119.7	132.7	141.7	107.2	102.9	94.3	84.1	66.1	52.4	47.0
56°	76.3	106.1	118.6	127.6	93.1	89.2	82.6	74.4	58.7	47.0	42.3
56.5°	67.3	92.4	104.9	113.5	81.4	78.7	72.8	65.7	52.4	42.3	38.0
57°	59.5	79.0	91.2	99.4	71.6	69.3	64.2	58.3	47.0	38.4	34.8
57.5°	53.2	70.0	77.5	85.7	63.0	61.0	57.1	52.0	42.3	35.2	32.1
58°	47.4	62.2	68.5	71.6	56.0	54.4	50.9	46.6	38.0	32.1	29.0
58.5°	42.7	55.2	60.7	63.0	49.7	48.5	45.4	41.5	34.8	29.0	26.2
59°	38.4	49.3	54.0	56.0	44.2	43.0	40.7	37.6	32.1	26.2	23.1
59.5°	34.4	44.2	48.1	49.7	39.5	38.7	37.6	34.4	29.0	23.1	21.1
60°	30.9	39.5	43.0	44.2	36.4	35.6	34.4	31.7	25.8	21.1	19.2
60.5°	28.2	35.6	38.7	39.5	33.3	32.5	31.3	28.6	23.1	19.2	17.2
61°	25.4	32.1	34.8	35.6	30.1	29.3	28.2	25.4	20.7	17.2	16.0
61.5°	23.1	29.0	31.3	32.1	27.0	26.2	25.0	22.7	18.8	16.0	14.5
62°	20.7	26.2	28.2	29.0	23.5	23.1	21.9	20.3	17.2	14.5	13.3
62.5°	19.2	23.9	25.8	26.2	21.5	21.1	20.0	18.8	15.7	13.3	12.1
63°	17.2	21.5	23.5	23.9	19.6	19.2	18.0	16.8	14.5	12.1	11.0
63.5°	15.7	19.6	21.1	21.5	17.6	17.2	16.4	15.3	12.9	11.0	10.2
64°	14.5	18.0	19.2	19.6	16.0	15.7	14.9	14.1	12.1	10.2	9.4
64.5°	13.3	16.4	17.6	17.6	14.5	14.5	13.7	12.9	11.0	9.4	8.6
65°	12.5	14.9	16.0	16.0	13.3	13.3	12.5	11.7	10.2	8.6	7.8
65.5°	11.3	13.7	14.5	14.9	12.1	12.1	11.3	10.6	9.4	7.8	7.0
66°	10.2	12.5	13.3	13.7	11.3	11.0	10.6	9.8	8.2	7.0	6.7





TEST NUMBER: P776266

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	7.8	9.4	10.2	10.2	8.6	8.6	7.8	7.4	6.3	5.5	5.1
68°	7.0	8.6	9.4	9.4	7.8	7.8	7.4	7.0	5.9	5.1	4.7
68.5°	6.3	7.8	8.6	8.6	7.0	7.0	6.7	6.3	5.5	4.7	4.3
69°	5.9	7.4	7.8	7.8	6.7	6.7	6.3	5.9	5.1	4.3	3.9
69.5°	5.5	6.7	7.0	7.4	6.3	5.9	5.5	5.5	4.3	3.9	3.5
70°	4.7	6.3	6.7	6.7	5.5	5.5	5.1	4.7	3.9	3.5	3.1
70.5°	4.3	5.5	5.9	6.3	5.1	5.1	4.7	4.3	3.9	3.1	3.1
71°	3.9	5.1	5.5	5.5	4.7	4.7	4.3	3.9	3.5	3.1	2.7
71.5°	3.5	4.7	5.1	5.1	4.3	4.3	3.9	3.9	3.1	2.7	2.7
72°	3.5	4.3	4.7	4.7	3.9	3.9	3.5	3.5	2.7	2.3	2.3
72.5°	3.1	3.9	4.3	4.3	3.5	3.5	3.5	3.1	2.7	2.3	2.0
73°	2.7	3.5	3.9	3.9	3.5	3.1	3.1	2.7	2.3	2.0	2.0
73.5°	2.7	3.1	3.5	3.5	3.1	3.1	2.7	2.7	2.0	2.0	2.0
74°	2.3	3.1	3.1	3.5	2.7	2.7	2.7	2.3	2.0	1.6	1.6
74.5°	2.0	2.7	3.1	3.1	2.7	2.3	2.3	2.3	2.0	1.6	1.6
75°	2.0	2.3	2.7	2.7	2.3	2.3	2.3	2.0	1.6	1.2	1.2
75.5°	1.6	2.3	2.3	2.7	2.3	2.0	2.0	2.0	1.6	1.2	1.2
76°	1.6	2.0	2.3	2.3	2.0	2.0	2.0	1.6	1.2	1.2	1.2
76.5°	1.6	2.0	2.0	2.3	2.0	2.0	1.6	1.6	1.2	0.8	0.8
77°	1.2	1.6	2.0	2.0	1.6	1.6	1.6	1.2	1.2	0.8	0.8
77.5°	1.2	1.6	1.6	2.0	1.6	1.6	1.2	1.2	0.8	0.8	0.8
78°	1.2	1.2	1.6	1.6	1.6	1.2	1.2	1.2	0.8	0.8	0.8
78.5°	0.8	1.2	1.6	1.6	1.2	1.2	1.2	0.8	0.8	0.8	0.8
79°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.4	0.4
79.5°	0.8	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.4	0.4
80°	0.8	0.8	1.2	1.2	0.8	0.8	0.8	0.8	0.4	0.4	0.4
80.5°	0.4	0.8	0.8	1.2	0.8	0.8	0.8	0.8	0.4	0.4	0.4
81°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
81.5°	0.4	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4
82°	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.0	0.4
82.5°	0.4	0.4	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.0	0.0
83°	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.0	0.0	0.0
83.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
84°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
84.5°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
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	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.4	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: P776266

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-3000K

**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: P776266

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3896.1	3896.1	3896.1	3896.1	3896.1	3896.1
0.5°	3882.0	3895.7	3896.1	3895.7	3895.3	3897.3
1°	3873.0	3889.8	3890.6	3891.0	3891.4	3896.9
1.5°	3862.8	3882.4	3882.8	3884.4	3886.7	3894.5
2°	3851.9	3873.0	3874.6	3876.1	3879.7	3890.6
2.5°	3839.8	3862.8	3864.0	3866.8	3871.1	3885.9
3°	3826.4	3851.1	3853.1	3856.2	3862.1	3879.7
3.5°	3813.1	3839.0	3840.9	3844.8	3852.3	3872.6
4°	3798.3	3825.7	3827.6	3832.7	3841.3	3864.8
4.5°	3783.4	3811.6	3813.1	3819.4	3829.6	3856.2
5°	3765.4	3796.3	3799.1	3805.7	3817.8	3847.6
5.5°	3746.2	3779.9	3783.0	3791.2	3804.9	3837.4
6°	3725.5	3762.3	3766.2	3775.6	3790.8	3826.1
6.5°	3699.7	3742.3	3746.2	3758.4	3775.6	3813.9
7°	3673.4	3719.6	3725.5	3740.0	3759.5	3801.4
7.5°	3641.0	3695.4	3701.6	3720.0	3742.7	3788.1
8°	3608.9	3666.0	3676.2	3697.3	3723.1	3772.4
8.5°	3570.5	3634.7	3646.8	3671.9	3701.6	3756.0
9°	3531.0	3599.9	3614.3	3644.1	3678.9	3737.6
9.5°	3487.6	3561.9	3578.0	3613.2	3653.9	3718.4
10°	3444.1	3520.8	3539.6	3578.7	3626.5	3697.3
10.5°	3400.7	3477.0	3498.5	3541.6	3594.8	3673.8
11°	3358.4	3432.8	3456.2	3502.4	3561.5	3649.2
11.5°	3316.2	3388.2	3410.9	3460.9	3526.3	3622.2
12°	3282.5	3345.9	3369.8	3419.1	3487.9	3593.2
12.5°	3249.2	3306.8	3328.3	3377.2	3448.0	3562.3
13°	3217.9	3270.4	3292.7	3340.0	3410.1	3528.6
13.5°	3188.2	3236.7	3259.4	3303.2	3372.9	3493.8
14°	3157.7	3205.0	3227.7	3270.8	3336.9	3459.8
14.5°	3131.8	3176.1	3198.8	3240.2	3303.2	3425.7
15°	3102.5	3145.9	3169.4	3209.7	3271.1	3390.5
15.5°	3076.7	3118.1	3141.2	3180.0	3240.6	3357.6
16°	3050.4	3091.9	3112.7	3150.6	3209.7	3325.5
16.5°	3020.7	3064.9	3086.0	3122.8	3179.6	3296.6
17°	2989.0	3039.5	3058.7	3094.3	3152.6	3266.5
17.5°	2947.5	3010.9	3031.3	3066.1	3123.6	3237.1
18°	2906.4	2977.6	2999.2	3037.9	3095.4	3208.1
18.5°	2865.3	2940.5	2964.3	3005.4	3065.7	3180.4
19°	2824.2	2900.2	2927.9	2971.8	3034.8	3153.0
19.5°	2782.8	2855.9	2886.9	2932.3	3000.7	3124.4
20°	2732.7	2809.0	2842.2	2891.2	2964.7	3094.7
20.5°	2678.7	2760.5	2796.5	2846.2	2925.2	3063.0
21°	2625.4	2712.3	2746.4	2797.2	2882.6	3028.1



TEST NUMBER: P776266

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2461.5	2566.7	2586.7	2635.6	2737.4	2913.1
23°	2404.0	2515.1	2530.0	2579.7	2686.1	2871.6
23.5°	2350.7	2461.5	2473.6	2526.1	2632.9	2827.8
24°	2290.5	2403.6	2418.4	2471.7	2580.8	2783.2
24.5°	2235.7	2346.4	2360.1	2416.9	2527.2	2738.2
25°	2177.8	2283.4	2303.8	2364.4	2476.7	2690.4
25.5°	2121.0	2224.3	2247.4	2309.6	2424.7	2639.9
26°	2063.5	2164.5	2189.5	2255.6	2373.4	2586.7
26.5°	2007.5	2104.6	2133.9	2198.9	2320.6	2531.1
27°	1949.2	2041.2	2074.5	2141.8	2265.0	2474.8
27.5°	1892.9	1980.5	2016.1	2083.8	2209.1	2417.3
28°	1834.6	1919.1	1957.4	2020.8	2151.2	2357.4
28.5°	1776.6	1856.9	1899.9	1964.5	2091.7	2297.5
29°	1715.6	1797.0	1840.4	1904.6	2031.8	2235.7
29.5°	1654.9	1736.7	1782.9	1846.7	1968.4	2177.0
30°	1597.0	1678.8	1724.6	1790.3	1908.1	2115.5
30.5°	1536.8	1621.7	1664.3	1732.4	1845.5	2052.5
31°	1480.8	1566.5	1605.2	1675.7	1783.7	1990.3
31.5°	1424.8	1511.3	1545.8	1618.9	1722.3	1926.9
32°	1370.8	1457.7	1488.6	1562.2	1663.2	1863.5
32.5°	1318.4	1401.8	1431.9	1505.5	1604.9	1800.5
33°	1264.8	1350.1	1379.1	1447.1	1545.8	1737.1
33.5°	1214.3	1298.4	1325.8	1384.9	1487.1	1675.7
34°	1162.6	1246.8	1272.6	1331.3	1428.4	1611.5
34.5°	1113.7	1195.1	1219.4	1277.7	1370.4	1549.7
35°	1065.6	1145.0	1166.6	1224.1	1312.5	1487.8
35.5°	1017.9	1098.9	1116.1	1170.5	1254.6	1426.8
36°	972.1	1052.7	1067.6	1117.6	1196.7	1371.2
36.5°	928.6	1010.0	1019.4	1065.6	1139.2	1315.3
37°	886.0	965.0	973.6	1013.6	1084.4	1259.3
37.5°	845.7	922.4	928.2	962.3	1032.3	1203.7
38°	805.8	880.5	885.2	912.6	981.5	1147.8
38.5°	767.0	839.8	843.3	864.1	934.5	1094.9
39°	731.0	802.6	802.6	816.3	888.7	1045.2
39.5°	693.8	763.5	764.7	772.5	843.7	997.1
40°	660.2	728.3	726.3	730.2	799.9	950.5
40.5°	626.5	692.3	690.3	691.9	757.6	903.6
41°	594.8	659.0	655.1	655.5	718.5	859.4
41.5°	565.5	625.3	621.4	623.0	680.9	817.1
42°	536.5	594.4	590.1	592.1	646.5	776.0
42.5°	509.5	563.9	560.0	563.5	612.4	736.9
43°	481.7	534.6	531.0	536.1	581.1	700.1
43.5°	456.7	506.4	503.6	510.7	551.4	662.9



TEST NUMBER: P776266

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	385.1	427.7	427.3	437.5	471.6	563.5
45.5°	363.9	403.1	403.5	415.2	446.9	533.0
46°	344.4	379.6	380.8	392.5	423.0	502.9
46.5°	324.8	357.7	359.2	371.0	399.9	474.7
47°	305.2	337.3	339.3	350.6	377.6	447.7
47.5°	285.3	318.2	319.7	331.1	355.7	421.9
48°	266.5	298.6	300.9	312.3	335.4	396.8
48.5°	243.4	280.2	282.9	293.9	316.2	372.2
49°	219.1	259.8	263.4	275.5	297.0	349.5
49.5°	194.5	237.9	242.2	255.9	277.8	329.5
50°	171.0	214.1	219.1	234.0	257.9	308.4
50.5°	149.5	189.4	195.7	210.5	234.8	288.4
51°	129.1	165.5	171.8	187.4	210.9	267.3
51.5°	112.7	144.4	149.9	164.4	187.4	243.8
52°	98.2	129.9	135.4	143.2	164.0	218.8
52.5°	86.5	115.8	120.5	129.1	142.8	194.5
53°	75.9	102.1	105.7	115.1	129.1	170.2
53.5°	67.3	88.0	91.2	101.4	115.1	148.3
54°	59.9	74.0	76.3	87.3	101.0	133.8
54.5°	53.6	65.0	67.3	73.2	86.9	119.4
55°	47.7	57.9	59.9	65.0	73.2	104.9
55.5°	43.0	51.7	53.2	57.5	64.6	90.4
56°	38.7	46.2	47.7	51.3	57.5	76.3
56.5°	35.6	41.5	42.7	45.8	51.3	67.3
57°	32.5	37.6	38.4	41.1	45.8	59.5
57.5°	29.3	33.7	34.4	36.8	41.1	53.2
58°	26.2	30.5	31.3	33.3	36.8	47.4
58.5°	23.5	27.4	28.2	30.1	33.3	42.7
59°	21.1	25.0	25.4	27.4	30.1	38.4
59.5°	19.2	22.7	23.1	24.7	27.0	34.4
60°	17.6	20.7	21.1	22.3	24.7	30.9
60.5°	16.0	18.8	19.2	20.3	22.3	28.2
61°	14.5	16.8	17.2	18.4	20.3	25.4
61.5°	13.3	15.7	16.0	16.8	18.4	23.1
62°	12.1	14.5	14.9	15.3	16.8	20.7
62.5°	11.0	13.3	13.7	14.1	15.3	19.2
63°	10.2	12.1	12.5	12.9	14.1	17.2
63.5°	9.4	11.0	11.3	11.7	12.9	15.7
64°	8.6	9.8	10.2	10.6	11.7	14.5
64.5°	7.8	9.0	9.4	9.8	10.6	13.3
65°	7.0	8.2	8.6	9.0	9.8	12.5
65.5°	6.7	7.8	7.8	8.2	9.0	11.3
66°	5.9	7.0	7.0	7.4	8.2	10.2



TEST NUMBER: P776266

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	4.7	5.5	5.5	5.9	6.3	7.8
68°	4.3	5.1	5.1	5.5	5.9	7.0
68.5°	3.9	4.7	4.7	5.1	5.5	6.3
69°	3.5	4.3	4.3	4.3	4.7	5.9
69.5°	3.1	3.9	3.9	4.3	4.3	5.5
70°	3.1	3.5	3.5	3.9	3.9	4.7
70.5°	2.7	3.1	3.1	3.5	3.5	4.3
71°	2.7	3.1	3.1	3.1	3.5	3.9
71.5°	2.3	2.7	2.7	2.7	3.1	3.5
72°	2.0	2.3	2.3	2.7	2.7	3.5
72.5°	2.0	2.3	2.3	2.3	2.7	3.1
73°	2.0	2.0	2.0	2.3	2.3	2.7
73.5°	1.6	2.0	2.0	2.0	2.0	2.7
74°	1.6	1.6	1.6	2.0	2.0	2.3
74.5°	1.2	1.6	1.6	1.6	1.6	2.0
75°	1.2	1.6	1.6	1.6	1.6	2.0
75.5°	1.2	1.2	1.2	1.6	1.6	1.6
76°	1.2	1.2	1.2	1.2	1.2	1.6
76.5°	0.8	1.2	1.2	1.2	1.2	1.6
77°	0.8	0.8	1.2	1.2	1.2	1.2
77.5°	0.8	0.8	0.8	0.8	0.8	1.2
78°	0.8	0.8	0.8	0.8	0.8	1.2
78.5°	0.8	0.8	0.8	0.8	0.8	0.8
79°	0.4	0.8	0.8	0.8	0.8	0.8
79.5°	0.4	0.4	0.4	0.4	0.4	0.8
80°	0.4	0.4	0.4	0.4	0.4	0.8
80.5°	0.4	0.4	0.4	0.4	0.4	0.4
81°	0.4	0.4	0.4	0.4	0.4	0.4
81.5°	0.4	0.4	0.4	0.4	0.4	0.4
82°	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.0	0.4	0.4	0.4	0.4	0.4
83°	0.0	0.4	0.4	0.4	0.0	0.4
83.5°	0.0	0.0	0.0	0.0	0.0	0.4
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: P776266

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-3000K

**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°	2991.3	3129.9	3205.4	3242.6	3184.3	3164.3	3120.1	3027.7	2876.3	2701.4	2604.3
22°	2953.4	3099.4	3176.4	3213.2	3149.1	3131.8	3088.0	2992.9	2836.4	2646.2	2551.1



44°	628.1	742.7	809.3	835.9	754.5	725.9	695.0	645.7	558.8	479.4	446.9
44.5°	595.2	702.4	763.5	788.5	710.7	683.3	653.9	610.9	528.7	454.3	423.8



66.5°	9.0	11.3	12.5	12.5	10.2	10.2	9.4	9.0	7.8	6.7	5.9
67°	8.2	10.2	11.3	11.3	9.4	9.0	8.6	8.2	7.0	5.9	5.5



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°	2571.4	2664.2	2694.7	2744.4	2836.8	2991.3
22°	2518.2	2615.3	2641.1	2689.2	2787.9	2953.4



44°	432.4	479.0	477.0	484.9	523.2	628.1
44.5°	408.6	452.8	451.6	461.4	497.4	595.2

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66.5°	5.5	6.3	6.7	7.0	7.4	9.0
67°	5.1	5.9	5.9	6.3	7.0	8.2

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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)