

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: P776269

Luminaire Tested: HCDJBL3040CSD-HCD42TRH-4000lm-5000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776269
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-5000K
Description: 4 INCH ROUND NARROW HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4107.1 lumens
Efficiency: N/A
Efficacy: 106.7 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

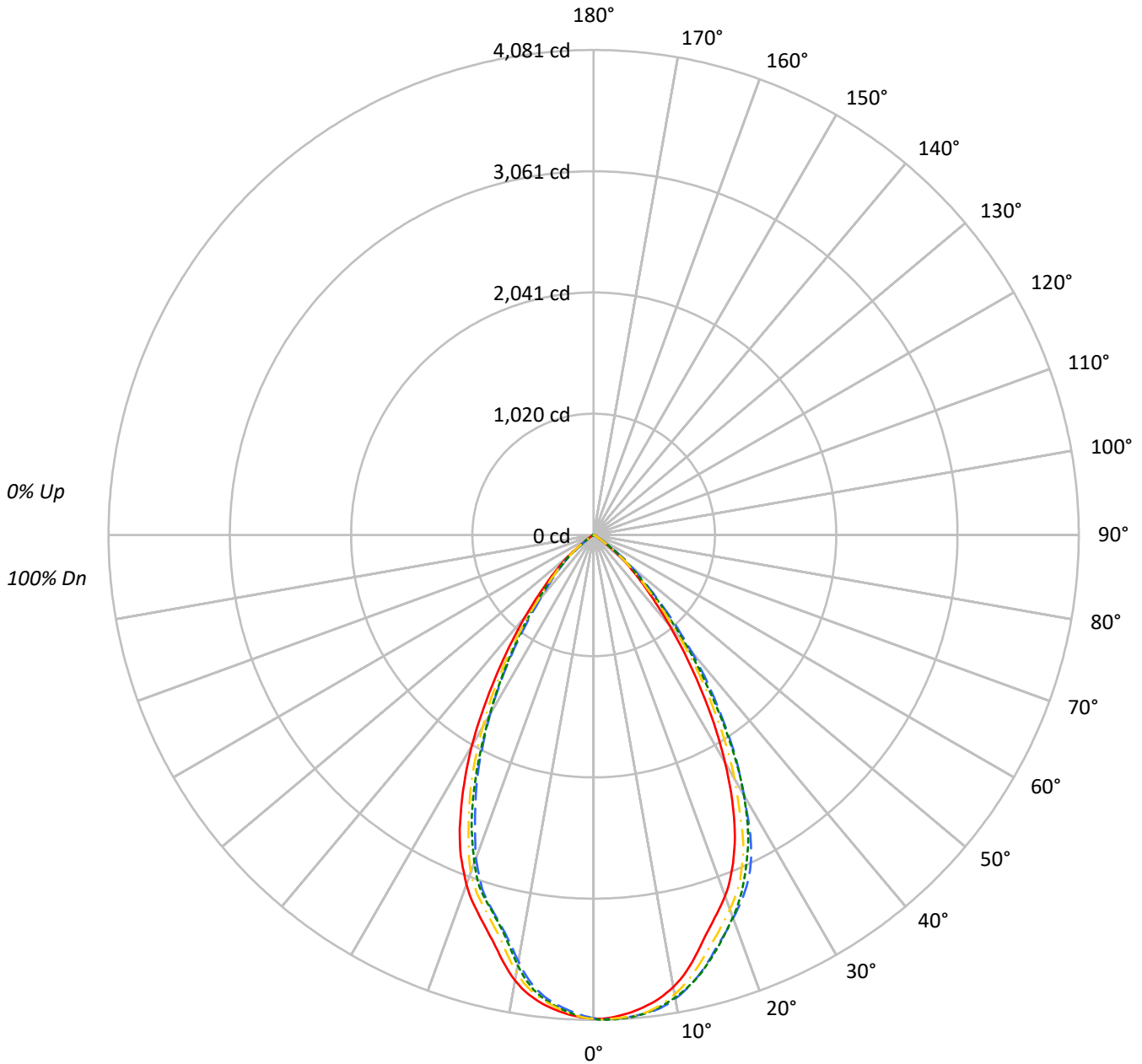
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	512246	512246	512246	512246
5°	507798	513432	505373	501039
10°	493606	505005	486616	470054
15°	461498	485367	449733	428209
20°	432985	458779	419190	393021
25°	390293	422648	369117	331250
30°	321169	367046	297715	254875
35°	238809	284915	216194	183777
40°	163152	198670	145754	124988
45°	104776	124140	92923	79539
50°	63083	71874	54116	43778
55°	24048	28436	17048	13274
60°	8130	9565	6796	5462
65°	3901	4139	3157	2561
70°	1803	2097	1509	1361
75°	972	1216	778	778
80°	580	580	290	290
85°	0	578	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 138111 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	377.1	9.2
10°-20°	983.0	23.9
20°-30°	1233.3	30.0
30°-40°	941.7	22.9
40°-50°	448.8	10.9
50°-60°	107.4	2.6
60°-70°	13.3	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°	2593.3	63.1
0°-40°	3535.0	86.1
0°-60°	4091.2	99.6
0°-90°	4107.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4107.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4070	4070	4070	4070	4070	
5°	4020	4064	4000	3966	4020	379
15°	3542	3725	3452	3287	3542	996
25°	2811	3044	2658	2386	2811	1271
35°	1554	1854	1407	1196	1554	971
45°	589	698	522	447	589	466
55°	110	130	78	60	110	118
65°	13	14	11	9	13	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°	4070.3	4070.3	4070.3	4070.3	4070.3	4070.3	4070.3	4070.3	4070.3	4070.3	4070.3
0.5°	4071.5	4070.7	4070.3	4069.5	4078.1	4077.3	4075.6	4072.8	4068.3	4061.3	4058.1
1°	4071.1	4073.2	4074.4	4073.6	4080.1	4079.7	4076.5	4072.0	4064.6	4054.8	4050.7
1.5°	4068.7	4073.2	4075.6	4076.5	4081.0	4080.1	4076.0	4070.3	4060.9	4046.2	4040.1
2°	4064.6	4072.8	4076.5	4078.1	4080.5	4080.1	4075.2	4067.9	4054.4	4037.2	4029.0
2.5°	4059.7	4070.3	4075.6	4078.1	4079.3	4078.9	4073.6	4064.6	4047.8	4027.0	4018.0
3°	4053.2	4066.6	4073.6	4077.7	4078.1	4077.7	4071.1	4060.5	4040.1	4016.4	4005.7
3.5°	4045.8	4063.8	4071.1	4076.0	4075.6	4075.6	4068.7	4056.0	4031.9	4004.5	3992.6
4°	4037.6	4058.9	4067.9	4074.4	4072.8	4073.6	4066.2	4050.7	4022.1	3992.6	3978.7
4.5°	4028.6	4053.2	4065.0	4071.1	4069.5	4070.3	4062.6	4044.6	4012.3	3979.2	3964.4
5°	4019.6	4047.0	4061.7	4068.3	4064.2	4066.2	4058.1	4036.8	4000.4	3964.8	3947.7
5.5°	4009.0	4040.9	4057.2	4065.0	4059.3	4061.3	4052.3	4027.8	3988.6	3949.7	3929.7
6°	3997.1	4033.5	4052.7	4060.9	4051.5	4054.8	4045.0	4018.4	3975.1	3933.0	3910.5
6.5°	3984.5	4025.4	4047.0	4054.8	4043.7	4046.2	4036.0	4007.0	3960.3	3914.1	3887.6
7°	3971.4	4016.4	4040.1	4048.2	4034.3	4036.8	4025.8	3994.3	3944.0	3893.3	3862.6
7.5°	3957.5	4005.3	4031.9	4040.5	4022.9	4024.9	4012.3	3979.2	3926.4	3869.2	3834.8
8°	3941.1	3992.6	4021.7	4031.1	4010.6	4011.9	3998.4	3963.2	3907.2	3843.4	3802.5
8.5°	3924.0	3978.3	4009.0	4019.6	3996.7	3997.5	3982.0	3946.0	3885.1	3814.4	3768.6
9°	3904.7	3962.8	3995.1	4006.5	3983.2	3980.8	3964.8	3927.2	3861.8	3782.5	3729.8
9.5°	3884.7	3946.0	3979.6	3992.6	3967.3	3964.8	3945.6	3907.2	3835.7	3746.9	3689.3
10°	3862.6	3927.2	3962.4	3977.1	3951.8	3946.0	3925.6	3884.3	3807.9	3708.5	3643.9
10.5°	3838.1	3906.8	3944.0	3961.2	3934.6	3927.2	3903.9	3860.2	3777.2	3667.2	3601.0
11°	3812.3	3885.9	3923.6	3943.6	3916.6	3906.8	3880.6	3833.2	3742.4	3625.9	3556.4
11.5°	3784.1	3863.0	3903.5	3925.2	3898.2	3885.1	3854.9	3805.4	3706.5	3583.8	3512.3
12°	3753.9	3838.5	3881.0	3906.8	3877.4	3862.6	3828.7	3776.0	3668.8	3541.7	3472.6
12.5°	3721.6	3811.5	3856.9	3885.5	3855.7	3837.3	3801.3	3744.1	3630.8	3503.7	3435.8
13°	3686.4	3783.3	3831.6	3864.3	3833.6	3812.3	3771.5	3710.6	3592.0	3467.3	3401.5
13.5°	3650.0	3753.5	3804.6	3841.0	3809.5	3784.5	3741.2	3676.6	3554.8	3431.7	3370.0
14°	3614.5	3723.2	3777.2	3817.3	3783.7	3756.3	3710.1	3641.5	3518.0	3398.2	3338.5
14.5°	3578.9	3691.3	3749.0	3792.3	3754.7	3726.5	3678.3	3605.9	3484.5	3367.1	3307.4
15°	3542.1	3657.4	3720.0	3764.5	3725.3	3696.7	3646.0	3572.4	3451.8	3335.2	3276.8
15.5°	3507.8	3625.1	3690.1	3737.9	3697.1	3666.4	3614.1	3539.7	3420.3	3305.4	3248.2
16°	3474.2	3592.4	3657.4	3708.1	3667.2	3637.0	3585.0	3507.8	3388.4	3275.1	3218.7
16.5°	3444.0	3560.5	3627.1	3679.5	3639.0	3606.7	3556.0	3476.7	3358.1	3245.7	3188.5
17°	3412.5	3528.6	3598.9	3650.0	3608.8	3578.1	3527.4	3445.2	3327.9	3215.9	3156.6
17.5°	3381.9	3499.2	3570.7	3621.4	3578.5	3548.7	3497.5	3415.0	3298.0	3183.6	3122.7
18°	3351.6	3470.2	3542.5	3592.8	3548.2	3518.4	3467.7	3385.5	3268.6	3149.2	3077.7
18.5°	3322.6	3440.7	3515.5	3563.8	3516.4	3489.4	3438.7	3356.1	3236.7	3105.9	3032.7
19°	3294.0	3412.9	3488.6	3535.2	3486.1	3459.5	3410.1	3327.5	3202.8	3063.0	2987.7
19.5°	3264.1	3383.9	3459.9	3504.9	3455.0	3431.3	3381.4	3298.0	3166.8	3019.6	2942.8
20°	3233.0	3356.1	3432.1	3475.9	3425.6	3401.5	3352.4	3267.4	3130.0	2976.3	2894.5
20.5°	3199.9	3328.3	3404.7	3447.3	3394.5	3370.8	3322.2	3235.1	3088.3	2933.0	2839.3
21°	3163.5	3300.1	3376.9	3417.4	3360.2	3340.1	3291.9	3200.3	3046.6	2879.0	2778.4



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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°	3043.3	3204.4	3288.2	3324.6	3253.1	3234.3	3190.5	3083.4	2921.5	2709.7	2609.6
23°	3000.0	3169.7	3255.9	3289.0	3213.4	3198.3	3154.9	3040.1	2873.7	2657.4	2552.3
23.5°	2954.2	3132.9	3223.6	3253.9	3171.7	3156.6	3109.6	2996.7	2822.6	2605.9	2498.4
24°	2907.6	3092.4	3188.5	3216.7	3130.4	3112.4	3063.8	2953.4	2769.8	2553.1	2444.4
24.5°	2860.6	3049.9	3151.3	3175.4	3087.1	3067.9	3018.4	2912.5	2715.9	2502.9	2390.0
25°	2810.7	3004.9	3111.6	3134.9	3043.7	3023.7	2973.0	2862.2	2658.2	2450.5	2334.0
25.5°	2758.0	2957.9	3067.1	3089.9	3000.0	2979.2	2927.2	2810.7	2598.9	2394.9	2276.4
26°	2702.4	2908.4	3021.3	3044.2	2956.7	2935.0	2867.1	2756.3	2538.4	2337.7	2217.5
26.5°	2644.3	2856.1	2968.5	2998.0	2912.9	2882.7	2805.4	2697.9	2478.7	2277.6	2157.8
27°	2585.4	2802.1	2913.7	2950.9	2864.3	2828.7	2739.2	2635.3	2420.3	2213.8	2095.7
27.5°	2525.3	2744.9	2852.8	2903.9	2812.8	2773.5	2675.0	2573.6	2358.5	2150.5	2035.2
28°	2462.8	2684.8	2787.4	2850.8	2759.2	2716.3	2611.2	2508.2	2298.9	2086.7	1974.7
28.5°	2400.2	2619.8	2722.4	2797.6	2700.7	2656.2	2549.9	2439.5	2237.9	2023.7	1915.8
29°	2335.7	2552.7	2654.9	2742.4	2646.0	2592.0	2489.8	2372.0	2177.0	1960.3	1855.3
29.5°	2274.3	2484.5	2589.5	2684.8	2584.6	2529.0	2430.1	2306.6	2113.7	1900.2	1796.4
30°	2210.1	2416.6	2526.2	2623.5	2525.8	2462.4	2370.0	2238.8	2048.7	1841.4	1739.2
30.5°	2144.3	2348.7	2465.7	2559.7	2464.4	2394.9	2309.9	2172.9	1984.5	1781.7	1681.5
31°	2079.3	2283.3	2406.4	2495.9	2404.7	2331.2	2248.6	2105.9	1919.5	1723.6	1622.2
31.5°	2013.1	2217.5	2346.7	2426.8	2339.3	2266.2	2184.4	2041.3	1853.2	1663.9	1563.0
32°	1946.9	2153.3	2286.2	2361.4	2275.6	2204.4	2119.8	1975.9	1785.8	1602.6	1503.3
32.5°	1881.0	2088.3	2223.6	2294.0	2205.6	2140.6	2054.0	1911.3	1717.9	1540.9	1444.4
33°	1814.8	2024.1	2160.7	2228.1	2137.0	2076.9	1986.9	1847.5	1653.7	1479.2	1385.5
33.5°	1750.6	1958.7	2093.2	2163.1	2065.4	2014.3	1920.7	1784.1	1588.3	1417.0	1326.2
34°	1683.6	1892.9	2027.0	2098.5	1995.9	1950.5	1855.7	1720.8	1525.8	1354.0	1269.4
34.5°	1619.0	1826.2	1959.9	2033.5	1925.2	1885.1	1791.5	1658.2	1465.3	1295.2	1213.8
35°	1554.4	1761.2	1892.1	1968.9	1854.5	1819.3	1729.4	1598.5	1407.2	1236.3	1160.3
35.5°	1490.6	1697.1	1827.1	1903.9	1785.8	1753.1	1668.4	1538.8	1347.5	1180.3	1105.9
36°	1432.5	1634.5	1764.9	1838.5	1717.9	1688.1	1607.5	1479.6	1291.1	1124.3	1052.7
36.5°	1374.1	1574.0	1704.0	1771.1	1647.6	1622.7	1545.4	1422.3	1234.7	1071.5	1001.6
37°	1315.6	1513.9	1641.5	1708.5	1580.9	1557.2	1484.1	1365.1	1180.7	1020.9	950.1
37.5°	1257.6	1448.1	1581.4	1641.5	1515.5	1494.3	1420.3	1309.9	1127.1	971.0	902.3
38°	1199.1	1394.1	1520.0	1577.3	1453.8	1433.0	1358.5	1252.7	1077.7	922.3	854.5
38.5°	1143.9	1339.7	1456.3	1510.6	1387.6	1370.8	1298.4	1196.6	1025.3	874.5	809.5
39°	1092.0	1285.8	1396.2	1450.9	1328.3	1309.9	1239.6	1141.5	977.9	829.5	767.8
39.5°	1041.7	1231.8	1336.1	1388.8	1269.0	1247.8	1182.3	1088.7	931.3	787.0	730.2
40°	993.1	1176.2	1275.6	1327.1	1209.3	1186.8	1125.5	1034.8	887.2	747.3	693.8
40.5°	944.0	1122.6	1215.5	1265.3	1149.6	1127.6	1072.0	982.8	842.2	709.7	659.0
41°	897.8	1067.5	1157.0	1203.6	1094.4	1069.9	1020.9	933.8	800.5	675.4	628.0
41.5°	853.6	1015.5	1103.0	1145.5	1038.0	1012.3	969.7	887.2	760.8	641.9	599.8
42°	810.7	963.2	1049.5	1088.3	986.5	956.3	918.2	840.6	722.8	612.4	571.1
42.5°	769.8	913.7	997.1	1032.7	933.8	903.5	868.8	797.2	685.2	582.2	543.7
43°	731.4	866.7	946.9	977.1	883.5	852.4	820.1	754.7	649.6	554.0	517.6
43.5°	692.6	820.9	896.2	924.0	834.4	804.6	772.7	714.2	616.1	526.6	491.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	588.7	693.8	750.6	776.0	697.5	672.1	641.5	602.2	522.1	449.7	419.1
45.5°	556.8	654.9	705.2	731.8	655.8	632.9	603.8	567.9	493.5	425.6	396.2
46°	525.3	617.3	661.9	688.5	614.5	595.7	567.5	535.6	465.7	401.9	375.7
46.5°	495.9	583.4	624.3	648.8	576.9	560.1	533.9	504.5	439.1	379.4	355.3
47°	467.7	549.9	587.9	610.0	540.1	525.8	502.0	474.2	412.5	358.1	334.4
47.5°	440.7	518.0	552.7	573.6	507.0	493.9	472.6	445.6	388.8	337.3	314.0
48°	414.6	487.3	520.0	539.2	475.1	463.6	444.0	418.6	366.3	316.0	293.5
48.5°	388.8	458.3	489.8	505.7	444.4	434.6	417.0	392.9	344.2	295.2	270.6
49°	365.1	430.1	460.3	475.9	416.6	407.2	391.3	370.0	321.8	271.1	245.3
49.5°	344.2	403.5	432.5	445.2	389.6	384.3	368.8	347.1	299.3	244.9	219.5
50°	322.2	378.6	405.6	418.2	367.1	361.4	346.3	324.6	276.4	219.1	193.8
50.5°	301.3	355.3	380.2	390.0	344.6	338.1	323.4	301.7	249.4	193.4	170.9
51°	279.2	332.4	356.5	365.9	321.8	315.2	300.9	278.8	222.4	169.3	148.8
51.5°	254.7	310.7	334.0	342.6	299.3	292.3	278.0	252.7	196.2	147.6	129.2
52°	228.5	288.2	311.1	320.1	276.4	269.0	251.4	225.7	171.7	129.2	113.2
52.5°	203.2	263.7	288.2	298.9	251.4	243.3	224.0	198.7	149.6	112.8	99.3
53°	177.8	236.7	263.3	275.1	224.4	215.9	197.1	173.8	130.4	99.3	87.5
53.5°	154.9	210.1	235.9	250.2	198.7	189.3	172.5	150.9	114.1	87.5	77.3
54°	139.8	184.0	207.7	222.4	172.9	165.2	149.2	131.6	100.2	77.7	68.7
54.5°	124.7	160.7	181.5	196.2	149.6	143.1	129.2	114.9	88.3	68.7	61.3
55°	109.6	139.0	158.2	169.7	129.6	123.9	112.4	100.6	77.7	61.3	54.8
55.5°	94.4	125.1	138.6	148.0	112.0	107.5	98.5	87.9	69.1	54.8	49.1
56°	79.7	110.8	123.9	133.3	97.3	93.2	86.3	77.7	61.3	49.1	44.2
56.5°	70.3	96.5	109.6	118.6	85.0	82.2	76.0	68.7	54.8	44.2	39.7
57°	62.1	82.6	95.3	103.8	74.8	72.4	67.0	60.9	49.1	40.1	36.4
57.5°	55.6	73.2	80.9	89.5	65.8	63.8	59.7	54.4	44.2	36.8	33.5
58°	49.5	65.0	71.5	74.8	58.5	56.8	53.1	48.7	39.7	33.5	30.3
58.5°	44.6	57.6	63.4	65.8	51.9	50.7	47.4	43.3	36.4	30.3	27.4
59°	40.1	51.5	56.4	58.5	46.2	45.0	42.5	39.2	33.5	27.4	24.1
59.5°	36.0	46.2	50.3	51.9	41.3	40.5	39.2	36.0	30.3	24.1	22.1
60°	32.3	41.3	45.0	46.2	38.0	37.2	36.0	33.1	27.0	22.1	20.0
60.5°	29.4	37.2	40.5	41.3	34.8	33.9	32.7	29.8	24.1	20.0	18.0
61°	26.6	33.5	36.4	37.2	31.5	30.7	29.4	26.6	21.7	18.0	16.8
61.5°	24.1	30.3	32.7	33.5	28.2	27.4	26.2	23.7	19.6	16.8	15.1
62°	21.7	27.4	29.4	30.3	24.5	24.1	22.9	21.3	18.0	15.1	13.9
62.5°	20.0	24.9	27.0	27.4	22.5	22.1	20.9	19.6	16.4	13.9	12.7
63°	18.0	22.5	24.5	24.9	20.4	20.0	18.8	17.6	15.1	12.7	11.4
63.5°	16.4	20.4	22.1	22.5	18.4	18.0	17.2	15.9	13.5	11.4	10.6
64°	15.1	18.8	20.0	20.4	16.8	16.4	15.5	14.7	12.7	10.6	9.8
64.5°	13.9	17.2	18.4	18.4	15.1	15.1	14.3	13.5	11.4	9.8	9.0
65°	13.1	15.5	16.8	16.8	13.9	13.9	13.1	12.3	10.6	9.0	8.2
65.5°	11.9	14.3	15.1	15.5	12.7	12.7	11.9	11.0	9.8	8.2	7.4
66°	10.6	13.1	13.9	14.3	11.9	11.4	11.0	10.2	8.6	7.4	7.0



TEST NUMBER: P776269

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	8.2	9.8	10.6	10.6	9.0	9.0	8.2	7.8	6.5	5.7	5.3
68°	7.4	9.0	9.8	9.8	8.2	8.2	7.8	7.4	6.1	5.3	4.9
68.5°	6.5	8.2	9.0	9.0	7.4	7.4	7.0	6.5	5.7	4.9	4.5
69°	6.1	7.8	8.2	8.2	7.0	7.0	6.5	6.1	5.3	4.5	4.1
69.5°	5.7	7.0	7.4	7.8	6.5	6.1	5.7	5.7	4.5	4.1	3.7
70°	4.9	6.5	7.0	7.0	5.7	5.7	5.3	4.9	4.1	3.7	3.3
70.5°	4.5	5.7	6.1	6.5	5.3	5.3	4.9	4.5	4.1	3.3	3.3
71°	4.1	5.3	5.7	5.7	4.9	4.9	4.5	4.1	3.7	3.3	2.9
71.5°	3.7	4.9	5.3	5.3	4.5	4.5	4.1	4.1	3.3	2.9	2.9
72°	3.7	4.5	4.9	4.9	4.1	4.1	3.7	3.7	2.9	2.5	2.5
72.5°	3.3	4.1	4.5	4.5	3.7	3.7	3.7	3.3	2.9	2.5	2.0
73°	2.9	3.7	4.1	4.1	3.7	3.3	3.3	2.9	2.5	2.0	2.0
73.5°	2.9	3.3	3.7	3.7	3.3	3.3	2.9	2.9	2.0	2.0	2.0
74°	2.5	3.3	3.3	3.7	2.9	2.9	2.9	2.5	2.0	1.6	1.6
74.5°	2.0	2.9	3.3	3.3	2.9	2.5	2.5	2.5	2.0	1.6	1.6
75°	2.0	2.5	2.9	2.9	2.5	2.5	2.5	2.0	1.6	1.2	1.2
75.5°	1.6	2.5	2.5	2.9	2.5	2.0	2.0	2.0	1.6	1.2	1.2
76°	1.6	2.0	2.5	2.5	2.0	2.0	2.0	1.6	1.2	1.2	1.2
76.5°	1.6	2.0	2.0	2.5	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: P776269
CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776269

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4070.3	4070.3	4070.3	4070.3	4070.3	4070.3
0.5°	4055.6	4069.9	4070.3	4069.9	4069.5	4071.5
1°	4046.2	4063.8	4064.6	4065.0	4065.4	4071.1
1.5°	4035.6	4056.0	4056.4	4058.1	4060.5	4068.7
2°	4024.1	4046.2	4047.8	4049.5	4053.2	4064.6
2.5°	4011.4	4035.6	4036.8	4039.7	4044.2	4059.7
3°	3997.5	4023.3	4025.4	4028.6	4034.8	4053.2
3.5°	3983.6	4010.6	4012.7	4016.8	4024.5	4045.8
4°	3968.1	3996.7	3998.8	4004.1	4013.1	4037.6
4.5°	3952.6	3982.0	3983.6	3990.2	4000.8	4028.6
5°	3933.8	3966.1	3968.9	3975.9	3988.6	4019.6
5.5°	3913.7	3948.9	3952.2	3960.8	3975.1	4009.0
6°	3892.1	3930.5	3934.6	3944.4	3960.3	3997.1
6.5°	3865.1	3909.7	3913.7	3926.4	3944.4	3984.5
7°	3837.7	3885.9	3892.1	3907.2	3927.6	3971.4
7.5°	3803.8	3860.6	3867.1	3886.3	3910.1	3957.5
8°	3770.2	3829.9	3840.6	3862.6	3889.6	3941.1
8.5°	3730.2	3797.2	3809.9	3836.1	3867.1	3924.0
9°	3688.9	3760.8	3776.0	3807.0	3843.4	3904.7
9.5°	3643.5	3721.2	3737.9	3774.7	3817.3	3884.7
10°	3598.1	3678.3	3697.9	3738.8	3788.6	3862.6
10.5°	3552.7	3632.5	3654.9	3699.9	3755.5	3838.1
11°	3508.6	3586.3	3610.8	3659.0	3720.8	3812.3
11.5°	3464.4	3539.7	3563.4	3615.7	3684.0	3784.1
12°	3429.3	3495.5	3520.4	3572.0	3643.9	3753.9
12.5°	3394.5	3454.6	3477.1	3528.2	3602.2	3721.6
13°	3361.8	3416.6	3439.9	3489.4	3562.6	3686.4
13.5°	3330.7	3381.4	3405.2	3450.9	3523.7	3650.0
14°	3298.9	3348.3	3372.0	3417.0	3486.1	3614.5
14.5°	3271.9	3318.1	3341.8	3385.1	3450.9	3578.9
15°	3241.2	3286.6	3311.1	3353.2	3417.4	3542.1
15.5°	3214.2	3257.6	3281.7	3322.2	3385.5	3507.8
16°	3186.8	3230.2	3251.8	3291.5	3353.2	3474.2
16.5°	3155.8	3202.0	3224.0	3262.5	3321.8	3444.0
17°	3122.7	3175.4	3195.4	3232.6	3293.5	3412.5
17.5°	3079.3	3145.5	3166.8	3203.2	3263.3	3381.9
18°	3036.4	3110.8	3133.3	3173.8	3233.9	3351.6
18.5°	2993.5	3072.0	3096.9	3139.8	3202.8	3322.6
19°	2950.5	3029.8	3058.9	3104.7	3170.5	3294.0
19.5°	2907.2	2983.6	3015.9	3063.4	3134.9	3264.1
20°	2854.9	2934.6	2969.3	3020.4	3097.3	3233.0
20.5°	2798.4	2883.9	2921.5	2973.4	3056.0	3199.9
21°	2742.8	2833.6	2869.2	2922.3	3011.4	3163.5

TEST NUMBER: P776269

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2571.5	2681.5	2702.4	2753.5	2859.8	3043.3
23°	2511.4	2627.6	2643.1	2695.0	2806.2	3000.0
23.5°	2455.8	2571.5	2584.2	2639.0	2750.6	2954.2
24°	2392.9	2511.0	2526.6	2582.2	2696.2	2907.6
24.5°	2335.7	2451.4	2465.7	2524.9	2640.2	2860.6
25°	2275.1	2385.5	2406.8	2470.2	2587.5	2810.7
25.5°	2215.9	2323.8	2347.9	2412.9	2533.1	2758.0
26°	2155.8	2261.2	2287.4	2356.5	2479.6	2702.4
26.5°	2097.3	2198.7	2229.4	2297.2	2424.4	2644.3
27°	2036.4	2132.5	2167.2	2237.5	2366.3	2585.4
27.5°	1977.5	2069.1	2106.3	2177.0	2307.9	2525.3
28°	1916.6	2004.9	2045.0	2111.2	2247.3	2462.8
28.5°	1856.1	1939.9	1984.9	2052.3	2185.2	2400.2
29°	1792.3	1877.4	1922.7	1989.8	2122.7	2335.7
29.5°	1728.9	1814.4	1862.6	1929.3	2056.4	2274.3
30°	1668.4	1753.9	1801.7	1870.4	1993.5	2210.1
30.5°	1605.5	1694.2	1738.8	1809.9	1928.0	2144.3
31°	1547.0	1636.6	1677.0	1750.6	1863.5	2079.3
31.5°	1488.6	1578.9	1614.9	1691.3	1799.3	2013.1
32°	1432.1	1522.9	1555.2	1632.1	1737.5	1946.9
32.5°	1377.4	1464.4	1495.9	1572.8	1676.6	1881.0
33°	1321.3	1410.5	1440.7	1511.9	1614.9	1814.8
33.5°	1268.6	1356.5	1385.1	1446.9	1553.6	1750.6
34°	1214.6	1302.5	1329.5	1390.8	1492.2	1683.6
34.5°	1163.5	1248.6	1273.9	1334.8	1431.7	1619.0
35°	1113.2	1196.2	1218.7	1278.8	1371.2	1554.4
35.5°	1063.4	1148.0	1166.0	1222.8	1310.7	1490.6
36°	1015.5	1099.8	1115.3	1167.6	1250.2	1432.5
36.5°	970.2	1055.2	1065.0	1113.2	1190.1	1374.1
37°	925.6	1008.2	1017.2	1058.9	1132.9	1315.6
37.5°	883.5	963.6	969.7	1005.3	1078.5	1257.6
38°	841.8	919.9	924.8	953.4	1025.3	1199.1
38.5°	801.3	877.4	881.0	902.7	976.3	1143.9
39°	763.7	838.5	838.5	852.8	928.5	1092.0
39.5°	724.9	797.6	798.9	807.0	881.4	1041.7
40°	689.7	760.8	758.8	762.9	835.7	993.1
40.5°	654.5	723.2	721.2	722.8	791.5	944.0
41°	621.4	688.5	684.4	684.8	750.6	897.8
41.5°	590.8	653.3	649.2	650.9	711.4	853.6
42°	560.5	621.0	616.5	618.6	675.4	810.7
42.5°	532.3	589.1	585.0	588.7	639.8	769.8
43°	503.3	558.5	554.8	560.1	607.1	731.4
43.5°	477.1	529.0	526.2	533.5	576.0	692.6

TEST NUMBER: P776269

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	402.3	446.9	446.4	457.1	492.6	588.7
45.5°	380.2	421.1	421.5	433.8	466.9	556.8
46°	359.8	396.6	397.8	410.1	441.9	525.3
46.5°	339.3	373.7	375.3	387.6	417.8	495.9
47°	318.9	352.4	354.5	366.3	394.5	467.7
47.5°	298.0	332.4	334.0	345.9	371.6	440.7
48°	278.4	311.9	314.4	326.2	350.4	414.6
48.5°	254.3	292.7	295.6	307.0	330.3	388.8
49°	228.9	271.5	275.1	287.8	310.3	365.1
49.5°	203.2	248.6	253.1	267.4	290.3	344.2
50°	178.7	223.6	228.9	244.5	269.4	322.2
50.5°	156.2	197.9	204.4	220.0	245.3	301.3
51°	134.9	172.9	179.5	195.8	220.4	279.2
51.5°	117.7	150.9	156.6	171.7	195.8	254.7
52°	102.6	135.7	141.5	149.6	171.3	228.5
52.5°	90.4	121.0	125.9	134.9	149.2	203.2
53°	79.3	106.7	110.4	120.2	134.9	177.8
53.5°	70.3	92.0	95.3	105.9	120.2	154.9
54°	62.6	77.3	79.7	91.2	105.5	139.8
54.5°	56.0	67.9	70.3	76.5	90.8	124.7
55°	49.9	60.5	62.6	67.9	76.5	109.6
55.5°	45.0	54.0	55.6	60.1	67.5	94.4
56°	40.5	48.2	49.9	53.6	60.1	79.7
56.5°	37.2	43.3	44.6	47.8	53.6	70.3
57°	33.9	39.2	40.1	42.9	47.8	62.1
57.5°	30.7	35.2	36.0	38.4	42.9	55.6
58°	27.4	31.9	32.7	34.8	38.4	49.5
58.5°	24.5	28.6	29.4	31.5	34.8	44.6
59°	22.1	26.2	26.6	28.6	31.5	40.1
59.5°	20.0	23.7	24.1	25.8	28.2	36.0
60°	18.4	21.7	22.1	23.3	25.8	32.3
60.5°	16.8	19.6	20.0	21.3	23.3	29.4
61°	15.1	17.6	18.0	19.2	21.3	26.6
61.5°	13.9	16.4	16.8	17.6	19.2	24.1
62°	12.7	15.1	15.5	15.9	17.6	21.7
62.5°	11.4	13.9	14.3	14.7	15.9	20.0
63°	10.6	12.7	13.1	13.5	14.7	18.0
63.5°	9.8	11.4	11.9	12.3	13.5	16.4
64°	9.0	10.2	10.6	11.0	12.3	15.1
64.5°	8.2	9.4	9.8	10.2	11.0	13.9
65°	7.4	8.6	9.0	9.4	10.2	13.1
65.5°	7.0	8.2	8.2	8.6	9.4	11.9
66°	6.1	7.4	7.4	7.8	8.6	10.6



TEST NUMBER: P776269

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	4.9	5.7	5.7	6.1	6.5	8.2
68°	4.5	5.3	5.3	5.7	6.1	7.4
68.5°	4.1	4.9	4.9	5.3	5.7	6.5
69°	3.7	4.5	4.5	4.5	4.9	6.1
69.5°	3.3	4.1	4.1	4.5	4.5	5.7
70°	3.3	3.7	3.7	4.1	4.1	4.9
70.5°	2.9	3.3	3.3	3.7	3.7	4.5
71°	2.9	3.3	3.3	3.3	3.7	4.1
71.5°	2.5	2.9	2.9	2.9	3.3	3.7
72°	2.0	2.5	2.5	2.9	2.9	3.7
72.5°	2.0	2.5	2.5	2.5	2.9	3.3
73°	2.0	2.0	2.0	2.5	2.5	2.9
73.5°	1.6	2.0	2.0	2.0	2.0	2.9
74°	1.6	1.6	1.6	2.0	2.0	2.5
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: P776269

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-4000lm-5000K

CANDELA DISTRIBUTION (continued):

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



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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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°	3125.1	3269.8	3348.7	3387.6	3326.7	3305.8	3259.6	3163.1	3004.9	2822.2	2720.8
22°	3085.4	3237.9	3318.5	3356.9	3289.9	3271.9	3226.1	3126.7	2963.2	2764.5	2665.2



44°	656.2	776.0	845.5	873.3	788.2	758.4	726.1	674.6	583.8	500.8	466.9
44.5°	621.8	733.9	797.6	823.8	742.4	713.8	683.2	638.2	552.3	474.7	442.8



66.5°	9.4	11.9	13.1	13.1	10.6	10.6	9.8	9.4	8.2	7.0	6.1
67°	8.6	10.6	11.9	11.9	9.8	9.4	9.0	8.6	7.4	6.1	5.7



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°	2686.4	2783.3	2815.2	2867.1	2963.6	3125.1
22°	2630.8	2732.2	2759.2	2809.5	2912.5	3085.4



44°	451.8	500.4	498.4	506.5	546.6	656.2
44.5°	426.8	473.0	471.8	482.0	519.6	621.8



66.5°	5.7	6.5	7.0	7.4	7.8	9.4
67°	5.3	6.1	6.1	6.5	7.4	8.6

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Scaled Data Report



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)