

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: P776412

Luminaire Tested: HCDJBL3040CSD-HCD6TSQC-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776412
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-HCD6TSQC-4000lm-3500K
Description: 6 INCH SQUARE MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

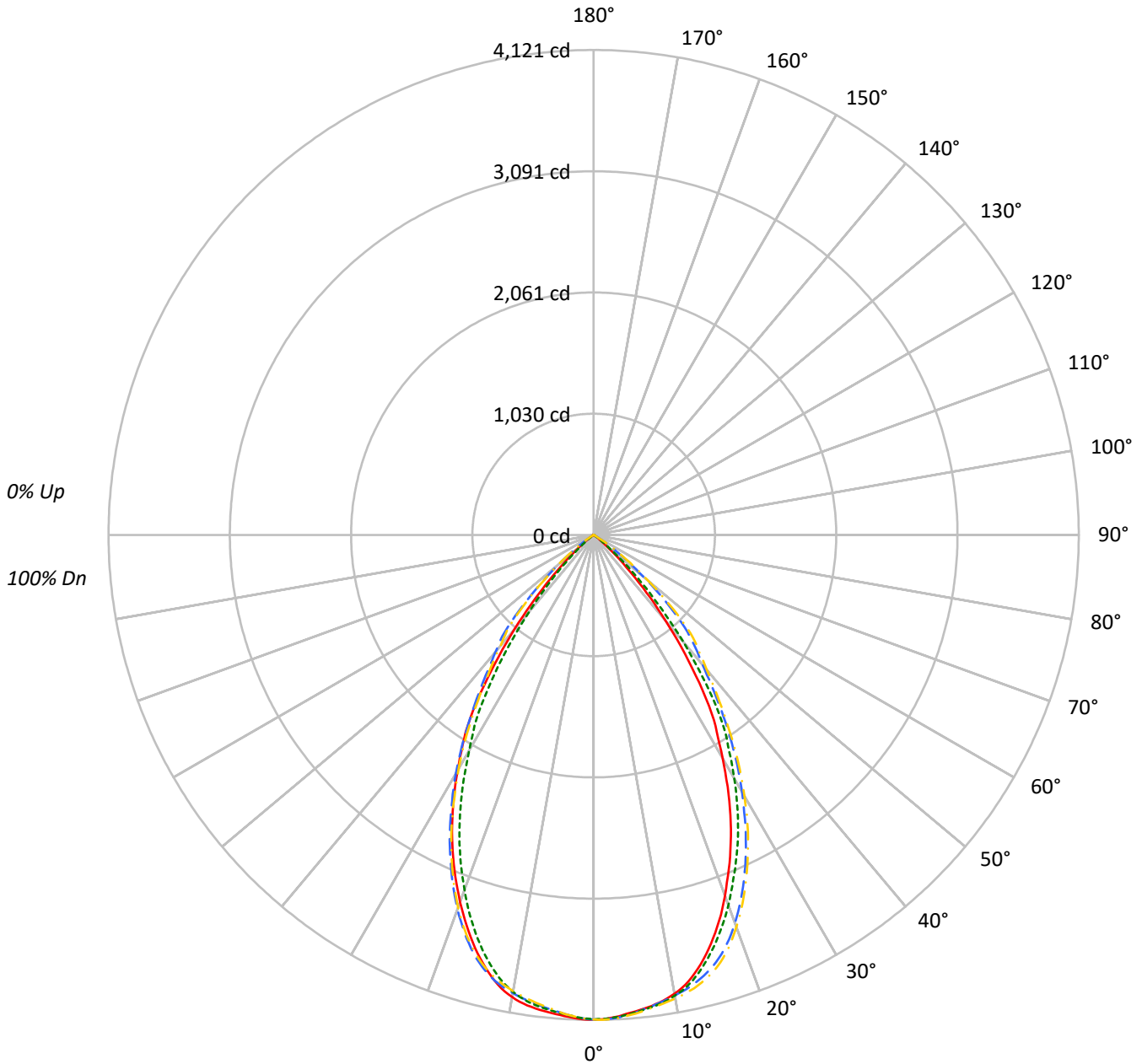
Lumens per Lamp: N/A
Luminaire Lumens: 4491.7 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 0.94 / 0.99
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')

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



TEST NUMBER: P776412
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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	85					85			
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	86	83	80	79					79			
4	96	87	82	77	94	86	81	77	84	79	76	82	78	75	80	77	74	72					72			
5	90	81	75	70	89	80	74	70	78	73	69	77	72	69	75	71	68	67					67			
6	85	76	69	65	84	75	69	64	73	68	64	72	67	64	71	66	63	62					62			
7	81	71	64	60	79	70	64	60	69	63	59	67	63	59	66	62	59	57					57			
8	76	66	60	55	75	65	59	55	64	59	55	63	58	55	62	58	54	53					53			
9	72	62	56	51	71	61	55	51	60	55	51	60	55	51	59	54	51	49					49			
10	69	58	52	48	68	58	52	48	57	51	48	56	51	48	55	51	47	46					46			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	177312	177312	177312	177312
5°	175655	176036	176291	175413
10°	173048	173813	174333	172405
15°	164493	166339	166018	162670
20°	149443	153305	152027	147079
25°	131052	137413	135242	128011
30°	108784	118658	114865	105284
35°	84808	97843	91199	79525
40°	53462	66193	58819	48258
45°	25860	35347	29489	22115
50°	7850	12378	9291	6310
55°	1043	953	923	803
60°	715	749	749	620
65°	611	611	652	530
70°	504	554	554	403
75°	466	466	466	399
80°	397	397	397	298
85°	198	395	198	198

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°

Vertical Angle: 45°

Luminance: 68538 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	385.1	8.6
10°-20°	1043.5	23.2
20°-30°	1319.2	29.4
30°-40°	1114.7	24.8
40°-50°	538.0	12.0
50°-60°	80.6	1.8
60°-70°	6.8	0.2
70°-80°	3.1	0.1
80°-90°	0.7	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°	2747.9	61.2
0°-40°	3862.5	86.0
0°-60°	4481.2	99.8
0°-90°	4491.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4491.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4118	4118	4118	4118	4118	
5°	4064	4073	4079	4059	4064	385
15°	3690	3732	3724	3649	3690	1028
25°	2759	2892	2847	2695	2759	1256
35°	1614	1862	1735	1513	1614	986
45°	425	580	484	363	425	346
55°	14	13	12	11	14	27
65°	6	6	6	5	6	6
75°	3	3	3	2	3	3
85°	0	1	0	0	0	1
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°	4118.2	4118.2	4118.2	4118.2	4118.2	4118.2	4118.2	4118.2	4118.2	4118.2	4118.2
0.5°	4118.6	4119.0	4118.6	4119.0	4114.7	4117.5	4120.2	4122.6	4119.8	4117.1	4115.9
1°	4116.3	4118.2	4118.2	4119.0	4114.3	4118.2	4120.6	4121.8	4119.0	4113.5	4111.9
1.5°	4112.3	4115.9	4116.7	4118.2	4112.7	4116.7	4120.2	4119.8	4116.3	4109.5	4107.1
2°	4107.9	4112.7	4114.3	4116.7	4109.1	4114.7	4118.2	4115.9	4111.5	4103.9	4101.2
2.5°	4101.6	4109.1	4110.7	4113.5	4105.1	4111.1	4114.7	4111.5	4107.1	4097.6	4094.4
3°	4095.6	4103.1	4105.5	4109.5	4100.4	4106.7	4109.9	4105.5	4101.6	4090.4	4086.1
3.5°	4087.3	4096.8	4099.2	4103.9	4094.4	4100.8	4103.9	4100.4	4095.6	4083.3	4078.1
4°	4078.9	4089.2	4092.0	4097.2	4087.3	4095.2	4097.2	4093.6	4089.2	4075.7	4068.6
4.5°	4071.0	4080.5	4083.7	4090.0	4080.5	4087.7	4090.4	4087.7	4084.9	4068.2	4059.4
5°	4064.2	4072.2	4074.1	4082.1	4073.0	4080.1	4082.5	4082.1	4078.9	4061.0	4050.3
5.5°	4056.7	4064.2	4065.0	4073.3	4066.2	4072.6	4074.5	4075.7	4073.0	4053.5	4042.0
6°	4048.7	4056.7	4054.3	4063.8	4059.0	4065.0	4066.6	4069.0	4066.6	4045.5	4034.4
6.5°	4040.4	4049.1	4044.7	4054.7	4051.5	4057.5	4057.9	4061.8	4061.4	4037.6	4025.3
7°	4032.8	4040.4	4035.2	4045.9	4043.5	4049.1	4049.9	4055.1	4054.3	4028.5	4016.1
7.5°	4022.5	4031.2	4025.3	4036.4	4035.2	4040.4	4041.6	4047.1	4046.3	4018.5	4006.6
8°	4013.4	4022.1	4016.1	4026.5	4025.7	4031.6	4033.6	4039.2	4037.6	4008.2	3997.1
8.5°	4001.4	4011.8	4005.8	4016.1	4015.7	4021.3	4025.3	4030.0	4028.1	3997.1	3987.5
9°	3987.9	4001.0	3995.5	4005.4	4003.8	4010.6	4016.9	4019.7	4016.5	3984.7	3977.2
9.5°	3973.2	3988.3	3985.5	3993.5	3990.7	3999.8	4008.2	4009.4	4002.6	3970.8	3965.7
10°	3958.1	3974.4	3974.4	3981.6	3975.6	3987.1	3999.4	3995.5	3987.5	3954.9	3953.4
10.5°	3941.8	3960.1	3963.3	3968.5	3960.5	3972.8	3989.9	3981.2	3971.6	3939.1	3942.2
11°	3922.4	3945.0	3951.8	3953.8	3943.4	3957.3	3979.6	3964.5	3952.6	3922.0	3928.7
11.5°	3900.1	3928.3	3939.8	3939.1	3924.7	3941.8	3968.5	3948.6	3931.9	3901.7	3913.6
12°	3876.7	3910.0	3925.9	3922.4	3903.3	3925.1	3956.5	3929.5	3907.7	3879.9	3896.9
12.5°	3850.8	3889.0	3911.6	3905.3	3879.1	3905.3	3945.0	3908.9	3881.4	3855.6	3879.5
13°	3822.2	3865.9	3896.1	3886.2	3853.2	3885.0	3930.7	3885.8	3853.6	3828.6	3858.8
13.5°	3791.2	3841.3	3879.5	3866.7	3825.0	3861.2	3915.2	3861.2	3823.8	3800.8	3837.7
14°	3759.5	3815.1	3862.0	3844.5	3795.2	3836.5	3897.7	3834.2	3791.6	3771.4	3813.9
14.5°	3726.1	3786.9	3842.5	3819.5	3764.2	3809.1	3879.5	3805.2	3758.7	3740.4	3789.3
15°	3690.3	3756.3	3821.4	3792.4	3731.7	3780.9	3860.4	3775.8	3724.5	3707.8	3761.1
15.5°	3652.6	3725.3	3799.2	3765.0	3698.3	3751.5	3838.9	3745.2	3688.7	3676.0	3731.7
16°	3614.0	3691.9	3775.4	3736.4	3662.9	3721.7	3815.1	3713.8	3651.8	3640.7	3699.5
16.5°	3573.9	3657.7	3748.3	3705.4	3627.2	3690.3	3788.9	3680.0	3614.0	3604.9	3664.9
17°	3533.8	3622.0	3720.5	3673.2	3590.2	3657.0	3760.3	3644.2	3574.3	3567.6	3628.3
17.5°	3490.5	3584.6	3690.3	3640.3	3552.1	3623.2	3729.3	3608.9	3532.2	3530.6	3592.6
18°	3448.4	3547.7	3657.7	3606.9	3511.5	3588.6	3695.9	3572.3	3491.3	3490.5	3552.1
18.5°	3404.7	3508.8	3623.6	3571.5	3471.4	3552.9	3661.3	3534.2	3449.2	3449.9	3510.7
19°	3359.0	3468.6	3586.6	3535.4	3430.9	3515.9	3624.0	3494.8	3406.2	3409.0	3469.0
19.5°	3310.9	3427.7	3549.3	3497.2	3389.6	3478.2	3585.8	3455.5	3362.1	3368.9	3428.1
20°	3261.6	3384.8	3509.5	3460.3	3345.9	3439.2	3546.5	3414.6	3318.0	3324.8	3381.2
20.5°	3212.4	3343.1	3468.6	3421.7	3301.0	3399.9	3505.2	3372.9	3272.7	3281.1	3335.9
21°	3161.1	3298.6	3426.5	3382.4	3255.7	3358.2	3462.3	3330.8	3226.3	3238.2	3289.0



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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°	3017.3	3156.3	3293.8	3258.0	3119.8	3230.2	3330.4	3201.6	3087.2	3100.7	3145.6
23°	2966.8	3108.3	3247.3	3214.3	3076.9	3184.5	3282.7	3157.1	3039.1	3055.4	3095.1
23.5°	2914.4	3061.0	3199.6	3170.6	3030.8	3139.2	3236.6	3112.6	2991.0	3006.5	3044.7
24°	2863.5	3015.3	3151.2	3125.3	2984.7	3094.7	3188.5	3066.9	2943.0	2957.7	2994.2
24.5°	2811.5	2968.4	3102.7	3080.0	2938.6	3052.2	3139.6	3018.5	2894.9	2908.4	2943.8
25°	2758.6	2919.5	3053.0	3035.5	2892.5	3004.9	3088.4	2970.4	2846.8	2859.5	2893.3
25.5°	2704.6	2868.7	3003.0	2991.4	2846.4	2958.1	3038.3	2921.9	2795.6	2813.0	2842.8
26°	2649.7	2817.8	2950.5	2945.0	2798.3	2910.8	2988.7	2873.4	2744.7	2761.8	2785.6
26.5°	2594.5	2765.4	2898.1	2896.5	2748.3	2863.5	2938.6	2825.4	2691.5	2710.1	2732.0
27°	2538.9	2714.1	2845.6	2848.8	2698.2	2820.2	2888.5	2774.1	2639.0	2658.1	2676.0
27.5°	2481.3	2660.5	2791.2	2801.1	2647.8	2771.3	2838.5	2722.5	2585.8	2606.0	2620.7
28°	2423.3	2608.4	2737.9	2751.9	2596.9	2720.5	2783.2	2671.2	2531.7	2554.8	2563.1
28.5°	2364.5	2553.2	2681.5	2703.0	2546.0	2670.4	2730.0	2619.1	2476.5	2502.3	2508.7
29°	2306.1	2500.7	2626.3	2651.3	2493.6	2619.9	2674.0	2565.5	2422.5	2448.3	2453.1
29.5°	2247.3	2445.1	2571.5	2599.7	2441.1	2571.5	2617.2	2512.3	2365.7	2396.3	2397.8
30°	2188.1	2392.3	2518.6	2550.8	2386.7	2518.6	2560.3	2459.0	2310.4	2342.6	2339.4
30.5°	2133.2	2335.1	2463.8	2498.8	2332.7	2467.8	2507.1	2405.8	2256.4	2289.0	2283.4
31°	2079.2	2279.8	2408.2	2449.9	2280.2	2415.7	2452.3	2352.1	2205.9	2234.1	2224.6
31.5°	2020.8	2223.0	2352.9	2397.8	2230.6	2367.2	2395.9	2297.3	2149.5	2181.3	2166.6
32°	1969.5	2167.4	2298.9	2346.2	2176.1	2313.2	2339.0	2244.5	2101.4	2130.0	2107.4
32.5°	1926.2	2110.6	2242.9	2292.5	2123.3	2262.4	2282.2	2190.4	2047.8	2081.2	2049.0
33°	1876.2	2058.9	2185.3	2242.9	2081.6	2209.5	2223.4	2141.2	1995.0	2028.3	1990.6
33.5°	1814.2	2006.9	2128.5	2191.6	2031.9	2163.4	2167.0	2088.3	1935.0	1981.0	1932.6
34°	1753.0	1952.4	2072.4	2141.2	1977.9	2109.8	2109.0	2037.1	1871.8	1931.0	1876.2
34.5°	1683.1	1904.0	2015.6	2090.7	1922.2	2056.5	2051.8	1992.2	1805.8	1880.5	1819.7
35°	1613.5	1862.2	1960.0	2040.2	1861.5	2013.6	1995.0	1937.7	1735.1	1825.7	1763.7
35.5°	1545.2	1815.0	1902.0	1988.6	1799.1	1971.9	1939.7	1887.3	1662.8	1767.3	1709.7
36°	1478.8	1756.2	1845.6	1948.5	1729.9	1916.7	1884.9	1830.5	1590.1	1703.7	1656.0
36.5°	1405.7	1699.7	1791.1	1898.0	1660.0	1868.2	1831.7	1769.3	1516.2	1640.1	1604.8
37°	1340.2	1633.0	1736.7	1847.9	1586.5	1810.6	1777.6	1706.1	1445.9	1573.8	1554.7
37.5°	1275.0	1568.6	1683.9	1796.7	1517.0	1752.2	1726.4	1640.1	1377.5	1506.6	1506.6
38°	1209.4	1505.1	1630.6	1739.5	1445.5	1688.6	1676.7	1572.6	1309.6	1439.5	1459.0
38.5°	1144.3	1443.9	1580.5	1679.9	1377.5	1625.8	1628.6	1502.7	1244.8	1372.4	1414.5
39°	1077.5	1381.5	1530.5	1615.9	1310.4	1558.7	1582.5	1435.9	1179.6	1308.4	1372.4
39.5°	1013.2	1319.1	1482.8	1550.4	1244.4	1491.9	1536.4	1369.6	1113.3	1246.4	1335.4
40°	951.2	1256.7	1439.5	1484.8	1177.7	1425.2	1493.1	1306.0	1046.5	1186.4	1297.7
40.5°	889.6	1194.4	1402.9	1416.5	1112.5	1360.8	1452.2	1244.4	981.4	1127.6	1258.7
41°	832.0	1132.4	1366.4	1354.1	1047.3	1296.1	1416.9	1183.2	917.4	1066.8	1233.7
41.5°	776.0	1070.4	1329.8	1291.3	982.6	1234.9	1381.1	1122.8	855.4	1007.6	1199.5
42°	720.3	1009.2	1293.3	1228.9	918.6	1173.7	1341.4	1062.8	796.2	948.0	1159.0
42.5°	665.1	948.0	1256.7	1166.5	855.8	1114.9	1311.6	1002.4	740.2	889.6	1119.3
43°	612.7	890.8	1220.6	1107.3	797.0	1053.3	1286.5	941.7	685.0	832.4	1067.2
43.5°	562.2	836.0	1182.4	1048.1	739.8	992.1	1247.6	881.3	632.1	776.8	1014.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	424.7	675.4	1054.9	871.7	580.5	817.7	1125.6	717.2	484.3	622.6	853.4
45.5°	382.2	624.6	1008.4	815.7	531.2	762.1	1076.7	666.7	438.6	573.3	799.4
46°	342.1	574.9	958.7	760.9	483.9	708.8	1025.1	615.8	400.5	525.7	747.0
46.5°	304.0	526.8	909.1	708.8	437.5	658.4	971.1	567.4	362.4	480.0	695.7
47°	267.4	480.4	858.2	658.0	398.9	607.1	913.4	520.5	324.2	437.8	646.4
47.5°	232.8	436.3	807.0	609.5	360.0	558.6	857.0	475.2	286.1	400.1	597.2
48°	201.4	393.3	753.7	562.2	321.4	511.4	803.0	431.5	248.3	362.4	551.1
48.5°	173.6	354.4	700.9	515.7	282.9	466.5	750.5	394.5	217.3	324.6	506.2
49°	149.0	315.5	648.4	470.4	244.4	421.2	699.7	357.6	189.1	287.3	462.9
49.5°	132.7	278.9	600.4	427.5	213.4	382.6	650.0	320.6	162.9	249.5	421.2
50°	117.2	244.4	552.3	387.0	184.8	343.7	603.1	283.7	138.7	218.9	384.6
50.5°	101.3	213.4	508.2	348.5	158.1	305.1	557.8	246.7	117.6	189.5	348.1
51°	85.4	184.0	463.7	310.3	133.9	266.6	514.5	214.6	97.3	163.3	311.5
51.5°	69.9	157.7	423.1	274.9	112.4	233.6	470.4	186.7	79.9	137.9	274.5
52°	58.0	134.3	383.0	242.4	92.6	202.6	427.5	159.3	66.8	115.6	244.0
52.5°	46.9	118.4	346.5	211.8	74.3	173.6	390.6	135.5	53.6	95.0	214.6
53°	35.8	102.5	310.7	182.8	62.0	147.4	353.6	112.0	40.5	77.5	187.5
53.5°	25.0	86.6	276.1	156.5	49.7	123.2	316.3	92.6	27.0	64.4	162.5
54°	17.1	70.7	243.6	131.9	37.0	102.1	279.3	74.3	14.3	51.3	140.3
54.5°	15.1	59.2	215.0	112.4	24.6	82.6	242.4	62.0	13.1	38.1	119.6
55°	13.9	47.7	187.1	93.0	12.7	68.7	213.4	49.3	12.3	25.4	100.9
55.5°	12.3	37.0	162.5	73.5	11.9	54.8	184.4	37.0	11.9	13.1	84.6
56°	11.1	26.2	139.9	54.4	11.5	41.3	158.1	24.2	11.5	11.9	70.3
56.5°	10.7	17.5	123.2	39.3	11.1	27.8	133.9	11.9	11.1	11.5	58.0
57°	10.3	15.9	106.5	26.2	10.7	13.9	112.4	11.1	10.7	11.1	50.5
57.5°	9.9	14.3	90.2	15.5	10.3	11.5	92.6	11.1	10.3	10.7	42.9
58°	9.5	12.7	73.5	13.9	9.9	11.1	75.5	10.7	10.3	10.3	35.4
58.5°	9.1	11.5	56.8	12.3	9.5	10.7	60.8	10.3	9.9	9.9	28.2
59°	9.1	9.9	46.1	11.1	9.1	10.3	52.4	9.9	9.5	9.5	20.7
59.5°	8.7	9.5	37.3	9.5	9.1	9.9	44.1	9.5	9.1	9.5	16.7
60°	8.3	9.1	30.2	9.1	8.7	9.5	35.8	9.1	8.7	9.1	13.9
60.5°	7.9	9.1	24.6	9.1	8.3	9.1	27.8	9.1	8.7	8.7	11.5
61°	7.9	8.7	19.9	8.7	7.9	9.1	19.5	8.7	8.3	8.3	9.9
61.5°	7.5	8.3	16.3	8.3	7.9	8.7	15.9	8.3	7.9	8.3	8.7
62°	7.5	8.3	14.7	8.3	7.5	8.3	13.1	8.3	7.5	7.9	8.3
62.5°	7.2	7.9	13.1	7.9	7.2	8.3	11.1	7.9	7.5	7.5	7.9
63°	6.8	7.5	11.1	7.5	7.2	7.9	9.5	7.5	7.2	7.5	7.5
63.5°	6.8	7.5	9.5	7.5	6.8	7.5	8.7	7.5	7.2	7.2	7.2
64°	6.4	7.2	7.9	7.2	6.8	7.5	7.9	7.2	6.8	6.8	7.2
64.5°	6.4	6.8	7.5	7.2	6.4	7.2	7.9	7.2	6.4	6.8	6.8
65°	6.0	6.8	7.5	6.8	6.0	6.8	7.5	6.8	6.4	6.4	6.8
65.5°	6.0	6.4	7.2	6.4	6.0	6.8	7.2	6.4	6.0	6.4	6.4
66°	5.6	6.4	6.8	6.4	5.6	6.4	7.2	6.4	6.0	6.0	6.4



TEST NUMBER: P776412

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	5.2	5.6	6.4	5.6	5.2	6.0	6.4	5.6	5.2	5.6	5.6
68°	4.8	5.6	6.0	5.6	4.8	5.6	6.0	5.6	5.2	5.2	5.2
68.5°	4.8	5.2	6.0	5.2	4.8	5.2	6.0	5.2	4.8	4.8	5.2
69°	4.4	5.2	5.6	5.2	4.4	5.2	5.6	5.2	4.8	4.8	4.8
69.5°	4.4	4.8	5.6	5.2	4.4	4.8	5.6	4.8	4.4	4.4	4.8
70°	4.0	4.8	5.2	4.8	4.4	4.8	5.2	4.8	4.4	4.4	4.4
70.5°	4.0	4.4	5.2	4.8	4.0	4.8	5.2	4.4	4.0	4.4	4.4
71°	4.0	4.4	4.8	4.4	4.0	4.4	4.8	4.4	4.0	4.0	4.0
71.5°	3.6	4.0	4.8	4.4	3.6	4.4	4.8	4.0	3.6	4.0	4.0
72°	3.6	4.0	4.4	4.0	3.6	4.0	4.4	4.0	3.6	3.6	3.6
72.5°	3.2	3.6	4.4	4.0	3.6	4.0	4.4	4.0	3.6	3.6	3.6
73°	3.2	3.6	4.0	4.0	3.2	3.6	4.0	3.6	3.2	3.2	3.6
73.5°	3.2	3.6	4.0	3.6	3.2	3.6	4.0	3.6	3.2	3.2	3.2
74°	2.8	3.2	3.6	3.6	3.2	3.6	3.6	3.2	3.2	3.2	3.2
74.5°	2.8	3.2	3.6	3.2	2.8	3.2	3.6	3.2	2.8	2.8	2.8
75°	2.8	2.8	3.2	3.2	2.8	3.2	3.6	3.2	2.8	2.8	2.8
75.5°	2.4	2.8	3.2	3.2	2.8	3.2	3.2	2.8	2.8	2.8	2.4
76°	2.4	2.8	3.2	2.8	2.8	2.8	3.2	2.8	2.4	2.4	2.4
76.5°	2.4	2.4	2.8	2.8	2.4	2.8	2.8	2.8	2.4	2.4	2.4
77°	2.4	2.4	2.8	2.8	2.4	2.8	2.8	2.4	2.4	2.4	2.0
77.5°	2.0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.0	2.0	2.0
78°	2.0	2.0	2.4	2.4	2.0	2.4	2.4	2.0	2.0	2.0	1.6
78.5°	2.0	2.0	2.0	2.4	2.0	2.4	2.4	2.0	2.0	2.0	1.6
79°	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6
79.5°	1.6	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.2
80°	1.6	1.6	1.6	2.0	1.6	2.0	2.0	1.6	1.6	1.6	1.2
80.5°	1.6	1.6	1.6	1.6	1.6	2.0	1.6	1.6	1.6	1.2	1.2
81°	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2
81.5°	1.2	1.2	1.2	1.6	1.6	1.6	1.6	1.2	1.2	1.2	0.8
82°	1.2	1.2	1.2	1.6	1.2	1.6	1.2	1.2	1.2	0.8	0.8
82.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8
83°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8
83.5°	0.8	0.8	0.8	1.2	1.2	1.2	0.8	0.8	0.8	0.4	0.8
84°	0.8	0.8	0.8	1.2	0.8	1.2	0.8	0.8	0.8	0.4	0.4
84.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.8	0.4	0.4
85°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
85.5°	0.4	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
86°	0.4	0.4	0.4	0.8	0.8	0.8	0.4	0.4	0.4	0.0	0.4
86.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0
87°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776412

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQC-4000lm-3500K

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: P776412

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4118.2	4118.2	4118.2	4118.2	4118.2	4118.2
0.5°	4114.3	4112.3	4114.3	4116.3	4120.2	4118.6
1°	4109.5	4109.5	4110.7	4111.9	4117.1	4116.3
1.5°	4104.7	4105.1	4105.9	4107.1	4113.9	4112.3
2°	4098.8	4100.0	4099.6	4101.2	4109.5	4107.9
2.5°	4092.0	4093.6	4093.2	4093.6	4102.4	4101.6
3°	4084.5	4086.9	4085.7	4085.7	4096.0	4095.6
3.5°	4077.3	4078.9	4076.9	4076.9	4087.3	4087.3
4°	4069.8	4072.6	4068.6	4067.4	4078.1	4078.9
4.5°	4062.6	4065.8	4060.2	4056.3	4069.0	4071.0
5°	4054.7	4058.6	4052.3	4045.1	4059.8	4064.2
5.5°	4045.9	4051.9	4043.5	4034.8	4051.1	4056.7
6°	4036.4	4044.3	4034.4	4024.9	4042.4	4048.7
6.5°	4027.3	4036.0	4024.9	4015.3	4032.8	4040.4
7°	4016.5	4026.9	4014.9	4005.8	4022.9	4032.8
7.5°	4005.4	4016.9	4003.4	3995.5	4012.2	4022.5
8°	3993.1	4005.8	3991.1	3984.3	4001.4	4013.4
8.5°	3979.2	3992.7	3978.0	3973.2	3989.5	4001.4
9°	3963.3	3976.8	3963.7	3961.3	3976.8	3987.9
9.5°	3947.0	3960.5	3948.2	3949.8	3962.5	3973.2
10°	3928.7	3943.4	3931.1	3936.7	3948.2	3958.1
10.5°	3908.5	3922.4	3912.0	3923.2	3932.7	3941.8
11°	3887.0	3900.5	3892.2	3908.9	3916.0	3922.4
11.5°	3864.0	3875.5	3870.7	3893.0	3898.1	3900.1
12°	3838.9	3848.5	3846.5	3875.9	3878.3	3876.7
12.5°	3811.9	3819.5	3820.7	3856.8	3855.6	3850.8
13°	3783.3	3789.7	3792.4	3837.3	3831.8	3822.2
13.5°	3753.1	3757.1	3763.4	3816.3	3806.3	3791.2
14°	3721.7	3722.5	3732.8	3793.6	3778.5	3759.5
14.5°	3689.5	3686.8	3700.7	3769.0	3749.9	3726.1
15°	3655.4	3649.4	3666.5	3741.6	3718.1	3690.3
15.5°	3620.4	3610.9	3630.7	3712.6	3685.6	3652.6
16°	3583.4	3571.1	3594.2	3681.2	3651.4	3614.0
16.5°	3545.7	3529.0	3556.4	3648.2	3616.0	3573.9
17°	3507.2	3486.9	3518.7	3613.6	3579.9	3533.8
17.5°	3467.8	3443.6	3478.6	3575.9	3540.9	3490.5
18°	3426.5	3400.3	3436.8	3537.8	3502.0	3448.4
18.5°	3387.2	3354.2	3394.7	3497.6	3461.9	3404.7
19°	3343.9	3306.9	3352.6	3455.9	3420.9	3359.0
19.5°	3301.0	3258.8	3308.9	3412.6	3378.8	3310.9
20°	3254.9	3210.0	3264.8	3368.1	3335.5	3261.6
20.5°	3210.4	3159.1	3216.7	3319.2	3291.8	3212.4
21°	3163.5	3109.8	3170.6	3273.9	3245.3	3161.1

TEST NUMBER: P776412

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3022.0	2960.1	3024.4	3124.5	3099.5	3017.3
23°	2974.8	2908.8	2976.7	3076.5	3049.4	2966.8
23.5°	2927.1	2857.1	2929.1	3023.6	3001.4	2914.4
24°	2879.4	2803.5	2877.0	2970.8	2954.9	2863.5
24.5°	2831.7	2749.5	2825.0	2915.2	2906.8	2811.5
25°	2778.9	2694.6	2772.9	2863.5	2854.0	2758.6
25.5°	2724.8	2639.8	2719.3	2807.9	2802.3	2704.6
26°	2671.2	2583.0	2665.6	2751.1	2749.1	2649.7
26.5°	2617.6	2527.4	2612.0	2690.7	2697.4	2594.5
27°	2562.3	2469.0	2558.4	2636.2	2641.8	2538.9
27.5°	2506.3	2410.2	2501.5	2578.2	2587.8	2481.3
28°	2450.7	2351.0	2445.5	2519.0	2531.7	2423.3
28.5°	2393.9	2291.4	2389.9	2461.8	2476.5	2364.5
29°	2336.3	2231.4	2332.7	2405.4	2420.1	2306.1
29.5°	2278.2	2173.4	2275.5	2350.6	2365.7	2247.3
30°	2220.6	2117.7	2217.5	2294.5	2308.0	2188.1
30.5°	2163.8	2063.7	2160.2	2237.7	2251.2	2133.2
31°	2106.6	2005.3	2103.4	2179.3	2193.6	2079.2
31.5°	2053.4	1954.8	2047.0	2120.1	2137.6	2020.8
32°	2000.1	1909.1	1994.6	2060.9	2080.4	1969.5
32.5°	1944.5	1849.1	1942.1	2002.1	2024.0	1926.2
33°	1896.0	1791.9	1885.3	1944.1	1972.7	1876.2
33.5°	1851.1	1722.0	1840.0	1884.5	1919.1	1814.2
34°	1793.5	1650.5	1793.9	1825.7	1864.6	1753.0
34.5°	1740.3	1581.3	1734.7	1767.3	1820.5	1683.1
35°	1674.7	1513.0	1678.7	1710.1	1776.4	1613.5
35.5°	1608.8	1448.2	1611.9	1654.1	1721.2	1545.2
36°	1543.6	1380.7	1546.4	1600.4	1667.6	1478.8
36.5°	1480.0	1312.8	1483.2	1546.4	1605.2	1405.7
37°	1416.9	1244.8	1418.4	1495.5	1540.4	1340.2
37.5°	1354.9	1177.3	1357.3	1446.3	1474.9	1275.0
38°	1292.9	1109.3	1295.7	1403.7	1405.3	1209.4
38.5°	1229.3	1043.0	1234.5	1361.2	1347.7	1144.3
39°	1164.9	978.2	1173.3	1318.7	1289.7	1077.5
39.5°	1101.0	917.4	1111.3	1276.2	1232.1	1013.2
40°	1037.8	858.6	1047.7	1233.7	1174.1	951.2
40.5°	977.8	802.2	987.3	1198.3	1112.1	889.6
41°	919.4	745.0	927.4	1167.7	1050.9	832.0
41.5°	863.0	690.1	872.1	1134.0	989.7	776.0
42°	807.8	634.9	817.3	1103.0	931.3	720.3
42.5°	753.7	586.1	765.6	1070.4	875.7	665.1
43°	700.9	537.2	713.6	1020.7	822.1	612.7
43.5°	650.0	490.7	662.3	973.8	769.2	562.2



TEST NUMBER: P776412

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	505.0	363.2	518.1	816.9	619.0	424.7
45.5°	459.7	324.2	473.2	769.2	570.6	382.2
46°	416.8	287.3	431.1	721.5	524.5	342.1
46.5°	378.6	251.5	391.0	674.3	479.6	304.0
47°	340.5	218.9	352.4	627.0	437.1	267.4
47.5°	302.8	188.7	314.3	583.7	396.5	232.8
48°	264.6	162.5	279.3	539.2	357.2	201.4
48.5°	231.6	139.5	246.7	496.7	319.0	173.6
49°	200.6	124.4	215.7	456.1	284.5	149.0
49.5°	172.4	109.3	187.5	417.2	250.7	132.7
50°	148.2	94.2	161.3	379.8	218.9	117.2
50.5°	126.7	79.1	137.9	344.9	189.1	101.3
51°	108.1	64.4	122.4	312.3	163.7	85.4
51.5°	91.8	52.8	106.9	281.3	140.7	69.9
52°	77.9	41.7	91.4	251.9	124.8	58.0
52.5°	65.6	31.0	75.5	224.9	108.9	46.9
53°	55.2	20.7	60.4	198.7	93.4	35.8
53.5°	44.9	13.5	48.9	174.4	77.5	25.0
54°	34.6	12.3	37.7	152.2	62.0	17.1
54.5°	24.2	11.5	27.4	131.9	50.5	15.1
55°	14.3	10.7	17.9	113.2	39.3	13.9
55.5°	10.7	9.9	15.9	99.7	28.6	12.3
56°	10.3	9.5	14.3	86.2	19.1	11.1
56.5°	9.9	9.1	12.3	73.1	12.3	10.7
57°	9.5	8.7	10.3	59.6	11.5	10.3
57.5°	9.1	8.3	8.3	46.1	11.1	9.9
58°	8.7	8.3	8.3	37.0	10.3	9.5
58.5°	8.7	7.9	7.9	29.4	9.5	9.1
59°	8.3	7.5	7.9	23.4	9.1	9.1
59.5°	7.9	7.5	7.5	19.1	9.1	8.7
60°	7.9	7.2	7.2	15.1	8.7	8.3
60.5°	7.5	6.8	7.2	13.5	8.3	7.9
61°	7.2	6.8	6.8	11.5	8.3	7.9
61.5°	7.2	6.4	6.8	9.5	7.9	7.5
62°	6.8	6.4	6.4	7.5	7.5	7.5
62.5°	6.8	6.0	6.4	7.2	7.5	7.2
63°	6.4	6.0	6.0	7.2	7.2	6.8
63.5°	6.0	5.6	6.0	6.8	7.2	6.8
64°	6.0	5.6	5.6	6.8	6.8	6.4
64.5°	5.6	5.2	5.6	6.4	6.4	6.4
65°	5.6	5.2	5.2	6.4	6.4	6.0
65.5°	5.2	4.8	5.2	6.0	6.0	6.0
66°	5.2	4.8	4.8	6.0	6.0	5.6



TEST NUMBER: P776412

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	4.8	4.0	4.4	5.2	5.2	5.2
68°	4.4	4.0	4.4	5.2	5.2	4.8
68.5°	4.4	4.0	4.0	4.8	4.8	4.8
69°	4.0	3.6	4.0	4.8	4.8	4.4
69.5°	4.0	3.6	4.0	4.4	4.8	4.4
70°	3.6	3.2	3.6	4.4	4.4	4.0
70.5°	3.6	3.2	3.6	4.4	4.4	4.0
71°	3.6	3.2	3.2	4.0	4.0	4.0
71.5°	3.2	2.8	3.2	4.0	4.0	3.6
72°	3.2	2.8	3.2	3.6	3.6	3.6
72.5°	2.8	2.8	2.8	3.6	3.6	3.2
73°	2.8	2.8	2.8	3.2	3.6	3.2
73.5°	2.8	2.4	2.8	3.2	3.2	3.2
74°	2.4	2.4	2.8	3.2	3.2	2.8
74.5°	2.4	2.4	2.4	2.8	3.2	2.8
75°	2.4	2.4	2.4	2.8	2.8	2.8
75.5°	2.4	2.0	2.4	2.4	2.8	2.4
76°	2.0	2.0	2.0	2.4	2.4	2.4
76.5°	2.0	2.0	2.0	2.4	2.4	2.4
77°	2.0	2.0	2.0	2.0	2.4	2.4
77.5°	1.6	1.6	2.0	2.0	2.0	2.0
78°	1.6	1.6	1.6	2.0	2.0	2.0
78.5°	1.6	1.6	1.6	1.6	2.0	2.0
79°	1.6	1.6	1.6	1.6	2.0	1.6
79.5°	1.2	1.2	1.6	1.6	1.6	1.6
80°	1.2	1.2	1.2	1.2	1.6	1.6
80.5°	1.2	1.2	1.2	1.2	1.6	1.6
81°	1.2	1.2	1.2	1.2	1.2	1.2
81.5°	0.8	1.2	1.2	1.2	1.2	1.2
82°	0.8	0.8	0.8	0.8	1.2	1.2
82.5°	0.8	0.8	0.8	0.8	0.8	1.2
83°	0.8	0.8	0.8	0.8	0.8	0.8
83.5°	0.8	0.8	0.8	0.8	0.8	0.8
84°	0.4	0.8	0.8	0.4	0.8	0.8
84.5°	0.4	0.4	0.4	0.4	0.4	0.8
85°	0.4	0.4	0.4	0.4	0.4	0.4
85.5°	0.4	0.4	0.4	0.4	0.4	0.4
86°	0.4	0.4	0.4	0.4	0.4	0.4
86.5°	0.0	0.4	0.4	0.4	0.4	0.4
87°	0.0	0.0	0.0	0.0	0.0	0.4
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: P776412

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQC-4000lm-3500K

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
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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°	3112.6	3252.1	3382.8	3342.3	3210.0	3315.7	3419.8	3288.6	3181.0	3194.5	3243.7
22°	3064.9	3204.8	3338.3	3300.6	3164.3	3273.1	3375.6	3246.1	3136.5	3146.4	3194.5



44°	513.7	782.3	1150.6	989.3	683.8	932.5	1212.6	824.4	581.3	723.5	961.5
44.5°	468.0	727.9	1103.0	929.7	632.1	875.7	1171.7	770.4	531.6	672.3	907.5



66.5°	5.6	6.0	6.8	6.0	5.6	6.4	6.8	6.0	5.6	6.0	6.0
67°	5.2	6.0	6.4	6.0	5.2	6.0	6.8	6.0	5.6	5.6	5.6



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°	3116.2	3061.8	3121.8	3225.9	3197.6	3112.6
22°	3069.7	3012.5	3074.1	3177.0	3147.6	3064.9



44°	600.0	445.0	611.5	922.2	719.2	513.7
44.5°	550.3	403.7	564.2	869.7	668.3	468.0



66.5°	5.2	4.4	4.8	5.6	5.6	5.6
67°	4.8	4.4	4.8	5.6	5.6	5.2

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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)