

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P837842

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2LO-27-120-EDD**

Issue Date: 5/21/2024

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

**Test Information**

Test Method: LM-79-08
Report Number: P837842
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2R-LD4-2LO-27-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

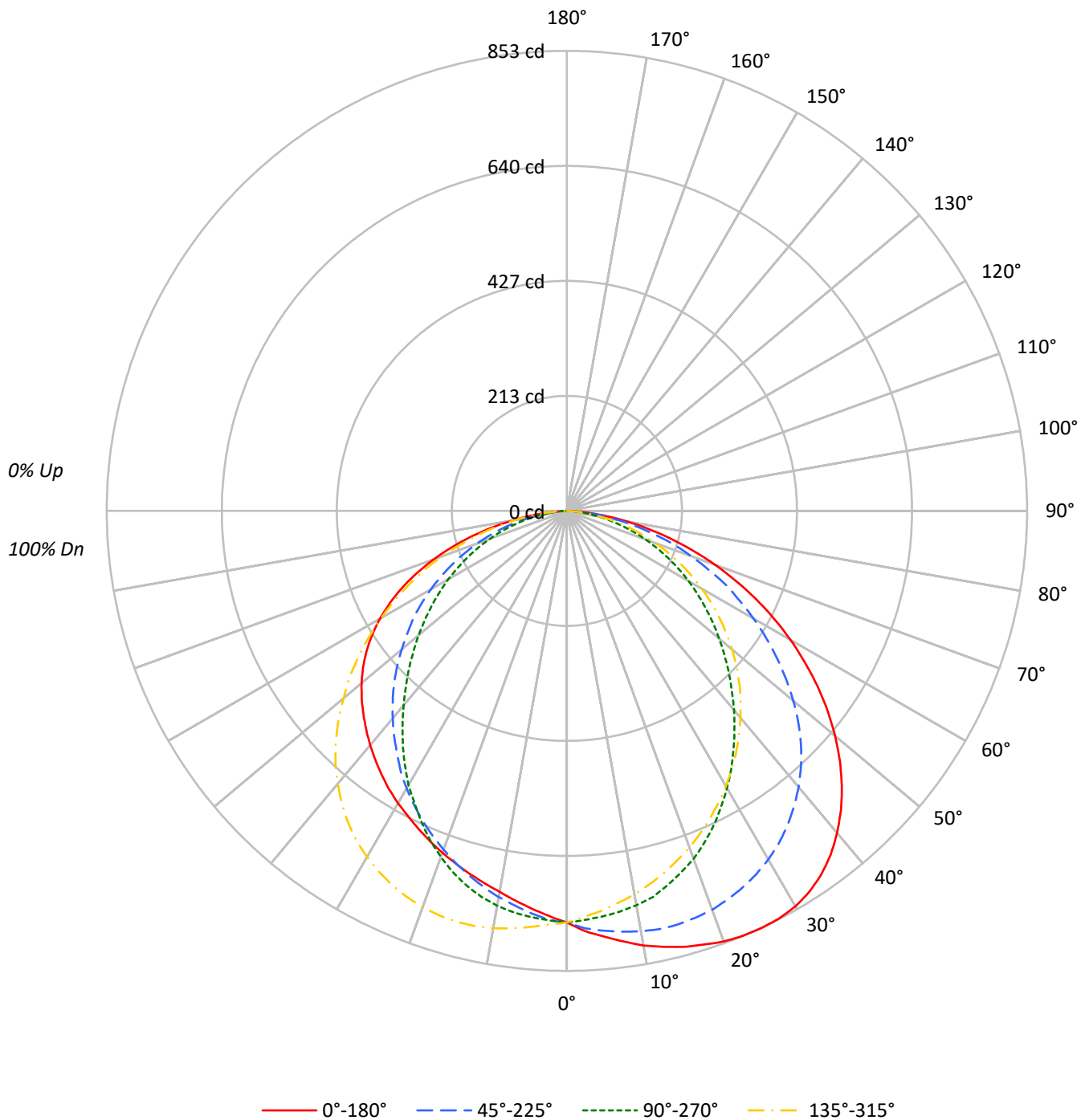
Lumens per Lamp: N/A
Luminaire Lumens: 2239.0 lumens
Efficiency: N/A
Efficacy: 95.7 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): 120
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: 25 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	2054	2054	2054	2054
5°	2140	2039	2000	2042
10°	2236	2028	1960	2031
15°	2332	2003	1941	2003
20°	2433	1966	1932	1955
25°	2534	1911	1932	1892
30°	2632	1845	1945	1824
35°	2702	1769	1964	1741
40°	2738	1693	1992	1655
45°	2743	1616	2030	1575
50°	2717	1542	2080	1501
55°	2661	1473	2126	1432
60°	2577	1401	2155	1365
65°	2462	1319	2143	1289
70°	2300	1223	2068	1201
75°	2069	1091	1897	1084
80°	1754	913	1595	927
85°	1220	605	1013	621

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.5	3.2
10°-20°	209.8	9.4
20°-30°	321.6	14.4
30°-40°	391.0	17.5
40°-50°	406.5	18.2
50°-60°	367.2	16.4
60°-70°	279.1	12.5
70°-80°	155.6	7.0
80°-90°	35.8	1.6
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°	603.8	27.0
0°-40°	994.8	44.4
0°-60°	1768.4	79.0
0°-90°	2239.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2239.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	763	763	763	763	763	
5°	792	755	740	756	792	76
15°	837	719	697	719	837	237
25°	853	644	651	637	853	394
35°	822	538	598	530	822	514
45°	721	425	534	414	721	555
55°	567	314	453	305	567	506
65°	387	207	337	202	387	382
75°	199	105	182	104	199	211
85°	40	20	33	20	40	50
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2
2.5°	780.1	768.7	768.8	778.8	771.2	774.9	764.2	768.3	767.1	768.0	759.2
5°	792.3	780.1	779.9	788.4	779.9	781.5	768.0	770.6	766.7	764.2	754.8
7.5°	805.3	793.1	791.8	799.3	788.1	786.8	771.9	771.9	764.8	758.5	749.6
10°	818.2	805.5	803.9	809.6	795.7	791.6	773.5	770.6	761.2	751.9	742.3
12.5°	827.8	815.0	813.7	817.3	801.6	794.1	773.5	768.0	754.1	741.1	733.6
15°	836.9	823.7	820.3	822.1	804.1	794.1	771.0	762.4	744.6	727.5	718.8
17.5°	843.3	830.6	827.2	827.1	805.3	791.1	765.6	753.9	732.5	711.9	703.2
20°	849.7	837.0	832.8	829.6	805.0	787.0	757.8	742.0	717.0	693.9	686.6
22.5°	852.9	839.9	835.2	830.4	802.7	779.5	748.2	728.1	699.6	672.0	666.0
25°	853.4	840.1	835.1	828.1	798.0	770.6	735.7	711.4	679.5	648.9	643.7
27.5°	852.0	837.4	832.4	824.0	791.1	759.8	721.0	692.3	658.1	624.3	618.8
30°	847.0	832.2	827.4	816.6	781.3	746.4	704.8	671.1	634.4	598.5	593.7
32.5°	837.0	822.6	818.7	807.8	770.6	730.9	685.9	648.3	608.3	573.9	566.8
35°	822.4	808.0	805.5	794.1	755.7	712.4	665.2	623.4	580.5	545.4	538.5
37.5°	803.4	791.3	787.5	776.3	738.1	691.4	641.6	596.4	552.2	514.5	510.2
40°	779.4	768.0	765.1	755.1	717.6	668.1	615.9	568.4	523.0	487.9	481.9
42.5°	751.9	741.3	739.7	729.3	692.3	642.3	588.2	539.4	492.6	458.7	452.7
45°	720.8	710.5	710.1	700.3	664.7	613.6	559.0	510.0	462.8	427.8	424.6
47.5°	686.4	677.2	677.2	668.1	633.9	582.1	528.9	479.4	432.9	402.0	396.3
50°	649.0	640.3	637.7	633.2	599.9	547.8	497.2	449.5	403.4	373.8	368.3
52.5°	609.2	601.7	603.5	595.3	563.1	512.0	465.2	415.8	373.7	346.8	341.3
55°	567.2	556.5	558.1	555.1	524.6	475.1	429.2	388.1	344.5	319.2	314.0
57.5°	523.5	509.7	515.4	513.6	483.7	437.4	396.3	356.6	315.4	292.1	287.1
60°	478.9	465.5	471.4	469.8	441.7	399.6	362.3	325.4	286.6	265.4	260.4
62.5°	432.9	420.7	426.0	424.7	398.9	361.0	328.4	294.6	257.6	238.5	233.9
65°	386.6	374.9	379.7	378.8	355.0	326.1	293.7	262.8	228.4	211.8	207.2
67.5°	339.3	328.4	332.9	332.9	311.0	283.4	258.8	230.5	199.7	185.5	181.2
70°	292.3	282.2	286.1	285.7	267.2	244.8	223.6	198.3	170.7	159.0	155.4
72.5°	244.9	236.0	239.6	239.3	223.8	209.3	188.3	166.4	142.4	133.0	129.8
75°	199.0	190.7	194.0	193.7	181.0	167.5	153.4	135.3	114.6	108.1	104.9
77.5°	155.2	146.7	149.5	149.5	140.3	130.5	119.3	105.2	90.6	83.5	81.2
80°	113.2	109.1	107.7	107.9	101.6	95.2	89.5	76.0	65.3	60.5	58.9
82.5°	74.4	71.0	69.6	70.0	66.4	62.5	58.9	49.5	42.4	39.5	38.6
85°	39.5	37.0	35.8	36.7	36.0	33.8	32.0	25.6	21.2	20.1	19.6
87.5°	12.5	10.9	10.0	13.2	11.2	10.0	9.6	7.7	5.9	5.9	5.7
90°	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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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2
2.5°	762.1	762.1	755.1	753.5	752.8	753.7	746.8	745.5	755.5	752.1	744.5
5°	756.0	755.7	745.9	744.1	744.1	743.0	735.2	733.4	743.4	740.5	732.2
7.5°	748.6	747.5	735.9	734.7	732.9	732.2	723.5	722.2	730.8	729.0	721.1
10°	739.5	738.4	724.7	723.8	721.9	720.4	712.2	711.4	720.1	717.2	711.0
12.5°	727.5	725.6	711.5	710.6	709.0	708.5	700.5	700.1	709.7	706.9	700.3
15°	711.9	710.3	694.6	695.0	695.2	695.2	688.7	688.4	697.8	696.6	689.5
17.5°	694.6	692.5	677.5	678.6	679.8	681.3	676.3	677.2	687.1	685.5	679.1
20°	675.0	672.9	658.3	661.3	664.0	666.8	663.6	666.1	675.4	674.7	669.9
22.5°	653.1	651.0	637.5	642.1	646.6	651.9	650.5	653.3	663.1	662.9	658.7
25°	626.4	627.0	615.0	620.7	628.2	635.7	636.2	640.9	651.7	650.6	646.7
27.5°	601.5	602.2	589.6	599.2	609.2	618.8	621.1	627.5	638.5	637.7	634.3
30°	575.3	576.2	564.0	577.1	589.2	601.0	606.0	614.7	625.9	625.9	622.3
32.5°	548.1	549.7	536.9	554.5	568.6	582.3	591.0	600.1	612.9	612.6	609.5
35°	520.2	521.9	510.2	532.6	546.7	563.4	574.3	586.4	597.8	598.0	595.6
37.5°	491.7	493.8	483.1	507.7	523.7	543.5	557.4	569.5	582.1	582.8	580.7
40°	463.4	465.7	456.4	480.1	500.4	522.5	538.5	552.7	566.6	567.0	565.6
42.5°	435.1	437.6	430.6	453.8	476.7	500.4	519.3	535.5	549.7	550.6	549.0
45°	407.5	409.6	404.6	429.9	452.0	477.8	499.5	517.8	532.3	533.5	533.0
47.5°	380.1	382.0	377.6	400.7	426.2	453.6	478.7	499.0	514.3	515.7	515.4
50°	353.2	354.8	350.0	374.2	399.5	428.7	454.8	478.3	495.4	496.8	496.7
52.5°	326.5	328.1	324.0	349.4	372.4	403.2	431.7	457.1	474.1	476.2	476.5
55°	300.7	301.4	298.2	322.6	344.8	377.0	409.8	434.5	451.4	453.2	454.3
57.5°	274.9	275.0	272.4	295.7	317.0	350.0	384.3	410.3	426.3	428.1	429.7
60°	249.2	249.0	246.0	268.6	289.1	321.7	357.5	383.3	398.8	400.4	402.5
62.5°	223.8	223.2	220.6	241.4	260.6	292.8	328.8	353.7	368.5	369.6	372.4
65°	198.5	198.0	195.5	214.7	232.1	262.9	298.2	321.9	335.2	336.6	336.1
67.5°	173.6	172.5	170.5	187.8	203.6	232.1	266.0	288.6	299.6	300.8	304.2
70°	148.6	147.4	142.9	161.3	175.2	200.6	232.1	252.2	261.5	262.8	262.2
72.5°	124.1	122.8	118.0	134.9	146.7	168.9	197.1	213.8	221.8	222.9	222.9
75°	100.2	99.5	96.5	109.3	119.1	137.2	161.1	175.0	181.2	182.5	182.1
77.5°	77.3	76.7	73.7	84.7	92.4	105.9	125.1	136.0	140.6	142.1	145.1
80°	55.4	55.2	50.4	61.2	64.6	76.0	90.1	98.4	100.9	102.9	105.0
82.5°	35.4	35.6	30.8	40.1	41.5	48.8	57.5	62.7	64.4	66.0	67.6
85°	17.3	18.0	15.3	21.2	21.4	25.1	28.8	30.8	31.5	32.8	34.2
87.5°	4.5	5.2	2.8	6.1	5.3	6.9	8.0	8.5	8.4	9.3	9.8
90°	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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CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2
2.5°	747.0	752.6	749.8	759.1	762.6	756.9	766.9	767.1	759.9	768.3	772.9
5°	735.4	741.3	739.5	749.1	753.5	748.6	760.7	763.0	756.0	765.5	772.9
7.5°	723.6	730.6	728.3	738.1	743.4	739.5	752.5	756.2	750.9	761.2	771.2
10°	713.5	719.4	716.9	727.2	731.8	728.6	741.4	748.4	743.4	756.0	768.0
12.5°	703.5	708.3	705.5	714.0	718.5	714.4	730.0	736.5	732.9	746.1	761.4
15°	690.7	696.0	692.1	699.8	703.2	699.6	712.4	723.5	719.0	733.4	750.3
17.5°	680.9	683.9	678.6	684.6	686.6	681.8	694.8	705.7	702.4	718.1	737.7
20°	670.1	672.5	665.1	668.4	668.3	662.2	674.1	684.8	682.7	700.0	722.2
22.5°	657.9	659.2	650.5	651.2	650.8	640.9	651.5	662.4	661.5	679.0	703.9
25°	645.1	645.3	634.1	633.7	629.8	618.1	627.5	639.8	637.1	656.0	682.2
27.5°	632.5	630.7	617.2	614.0	607.7	593.7	602.0	613.1	611.5	630.0	659.0
30°	619.0	616.6	600.1	594.2	585.1	568.9	575.9	586.2	587.1	603.3	633.7
32.5°	606.1	600.3	581.9	573.4	562.0	543.1	546.9	557.4	558.8	575.2	606.5
35°	589.6	585.7	563.1	548.5	537.3	516.6	520.5	527.8	530.0	546.0	577.8
37.5°	573.9	567.7	543.7	525.9	511.4	489.7	490.8	498.3	500.4	516.6	548.1
40°	557.7	548.8	523.0	502.2	485.6	462.8	461.6	469.4	471.0	486.9	515.4
42.5°	540.5	529.8	500.8	478.0	458.9	435.8	433.3	440.1	441.8	457.3	485.3
45°	523.0	510.2	478.0	453.0	432.2	408.5	406.1	411.2	413.9	428.5	455.4
47.5°	504.5	489.5	454.5	426.7	405.2	381.5	378.5	383.6	385.8	400.2	425.6
50°	485.1	466.9	430.3	399.6	378.3	355.0	350.5	356.6	358.5	372.1	397.0
52.5°	463.7	443.6	404.5	372.4	351.0	328.8	323.5	329.3	331.6	344.8	367.8
55°	441.1	419.4	378.5	347.3	324.2	302.4	298.0	300.3	305.3	317.8	339.1
57.5°	415.7	394.1	351.0	319.4	297.1	276.3	272.5	274.7	279.3	291.4	310.6
60°	388.6	365.8	323.1	291.4	269.9	250.1	246.7	248.7	253.7	264.7	282.5
62.5°	361.9	336.3	294.3	262.8	243.2	224.8	223.9	223.2	227.9	238.5	254.2
65°	329.5	304.9	264.2	234.3	216.5	199.9	196.4	198.0	202.4	212.2	228.6
67.5°	294.8	272.5	233.4	205.8	189.9	175.2	172.1	172.9	177.5	186.0	200.3
70°	257.9	238.4	201.9	177.1	163.8	149.9	147.9	148.1	152.6	160.0	172.5
72.5°	219.3	201.7	170.0	148.8	137.8	127.8	126.0	123.9	128.0	134.4	145.1
75°	180.0	164.5	138.3	121.1	112.3	104.0	102.4	100.2	104.3	109.8	118.2
77.5°	140.3	127.8	107.5	94.2	87.4	81.2	79.8	77.4	81.5	85.6	92.2
80°	101.5	92.4	80.3	66.2	63.9	59.8	58.4	55.9	59.8	62.5	67.5
82.5°	65.5	59.5	52.5	42.7	42.4	39.3	38.6	35.8	39.3	40.9	44.7
85°	33.1	30.3	28.5	21.7	22.4	20.5	20.3	17.3	20.1	20.8	23.0
87.5°	9.4	10.0	8.9	5.3	6.8	6.4	6.4	4.6	6.4	6.4	7.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	763.2	763.2	763.2	763.2	763.2	763.2	763.2	763.2
2.5°	763.9	766.9	767.6	767.4	769.4	780.1	776.5	780.1
5°	765.6	772.4	774.2	776.7	779.9	792.0	788.1	792.3
7.5°	766.7	776.9	780.8	785.6	790.7	804.3	801.1	805.3
10°	766.7	779.9	785.6	793.6	800.5	816.2	813.2	818.2
12.5°	763.5	780.4	788.4	799.6	808.5	825.5	824.2	827.8
15°	756.9	777.7	788.8	803.2	814.2	833.1	832.6	836.9
17.5°	748.0	773.1	786.5	804.6	818.5	839.7	840.9	843.3
20°	736.8	764.4	781.8	804.1	821.5	844.9	846.5	849.7
22.5°	722.0	753.9	774.9	801.8	821.9	847.0	849.8	852.9
25°	704.6	741.3	765.8	797.3	820.1	846.8	850.7	853.4
27.5°	684.6	724.9	754.3	790.2	815.1	844.0	848.8	852.0
30°	661.5	707.4	741.1	781.0	808.4	838.6	843.8	847.0
32.5°	637.7	688.2	725.4	769.0	798.6	830.1	834.5	837.0
35°	611.7	664.9	706.5	753.7	785.9	816.4	819.8	822.4
37.5°	583.4	639.6	685.0	736.5	768.1	797.3	800.4	803.4
40°	554.2	613.1	660.8	715.3	747.0	774.0	777.2	779.4
42.5°	524.8	583.7	635.0	690.3	721.9	747.8	749.8	751.9
45°	495.1	553.3	606.0	662.8	693.9	718.3	719.0	720.8
47.5°	464.8	521.8	574.1	631.2	662.0	684.3	685.0	686.4
50°	434.4	490.3	540.1	597.2	627.3	650.8	647.6	649.0
52.5°	404.5	457.1	508.1	560.6	590.3	611.1	612.0	609.2
55°	375.1	424.7	471.6	522.1	550.4	566.6	566.1	567.2
57.5°	345.4	392.0	434.9	481.2	508.8	524.1	527.3	523.5
60°	315.1	358.9	397.3	439.2	465.9	478.7	482.4	478.9
62.5°	285.0	325.2	360.1	396.6	421.4	437.2	436.9	432.9
65°	254.9	291.4	322.6	353.5	375.1	390.9	390.2	386.6
67.5°	227.1	257.2	285.2	310.3	329.0	339.8	343.6	339.3
70°	196.5	222.5	247.1	267.2	282.7	292.5	296.0	292.3
72.5°	165.9	188.0	205.3	224.7	236.6	244.8	248.5	244.9
75°	135.6	153.8	167.9	183.0	191.4	198.3	202.6	199.0
77.5°	106.3	120.3	131.6	142.6	152.2	153.8	157.5	155.2
80°	78.3	88.5	96.7	104.0	110.9	111.6	114.6	113.2
82.5°	52.2	58.9	61.1	68.7	73.2	72.5	75.5	74.4
85°	27.6	31.7	35.4	37.7	40.2	37.9	40.6	39.5
87.5°	9.3	9.8	8.5	12.1	13.4	11.4	13.0	12.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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