

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P1212186

Luminaire Tested: **LDSQA4A20927D010TE LAR35FL 4LSQAL1H 30°**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: P1212186
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26804)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA4A20927D010TE LAR35FL 4LSQAL1H 30°
Description: PORTFOLIO 4" SQUARE LENSED ADJUSTABLE, SELF-FLANGED, 35° FLOOD, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

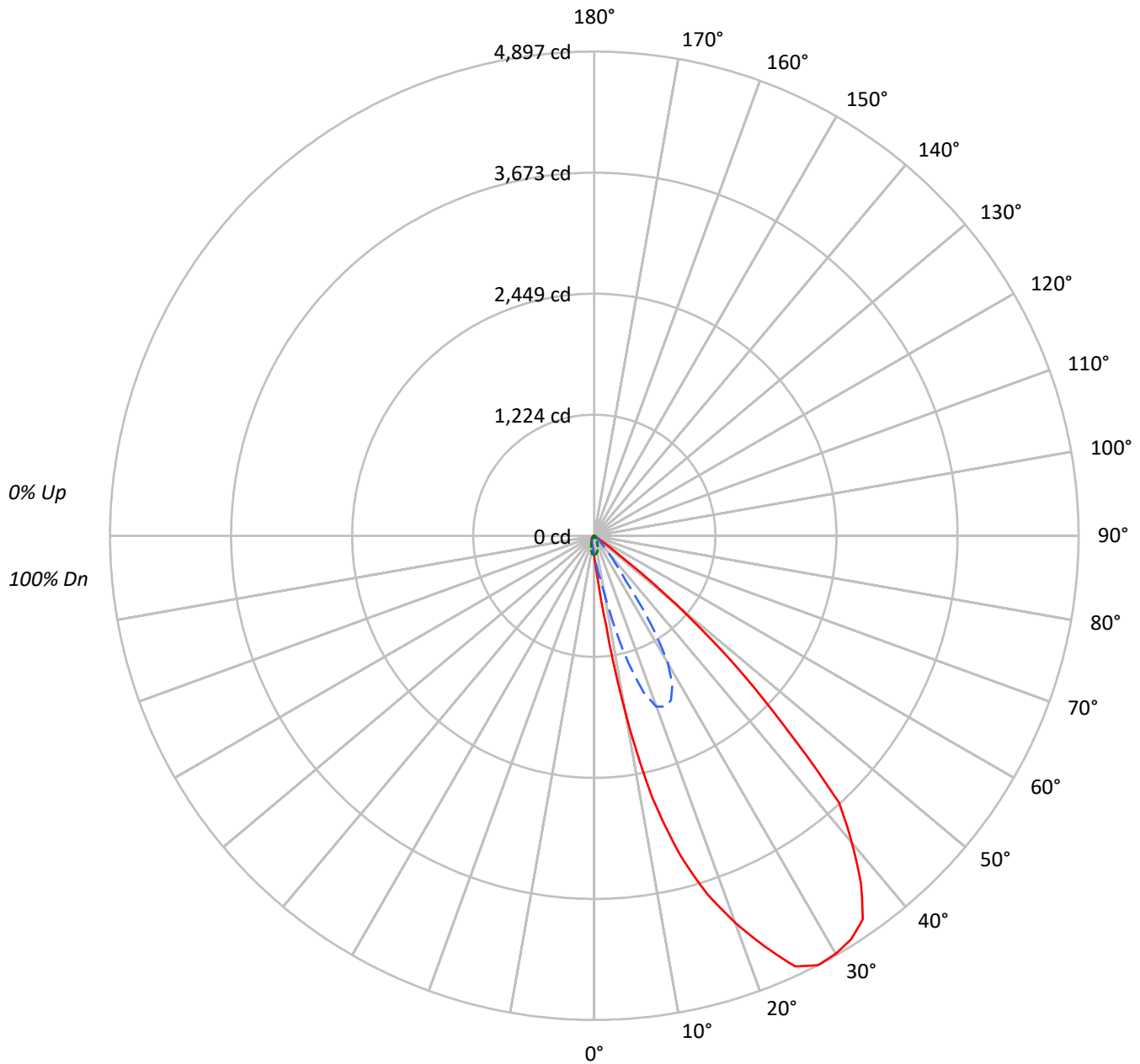
Lumens per Lamp: N/A
Luminaire Lumens: 1631.0 lumens
Efficiency: N/A
Efficacy: 56.6 lumens/watt
Spacing Criteria (0/90/45): 2.46 / 0.61 / 1.2
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 28.8
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: 25 FT

TEST NUMBER: P1212186

CATALOG NUMBER: LDSQA4A20927D010TE LAR35FL 4LSQAL1H 30°

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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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	112	109	106	104	110	107	104	102	103	101	99		99	97	96		96
2	106	100	95	91	103	98	94	90	95	91	88		92	89	86		89
3	99	91	85	80	97	90	84	80	87	82	78		84	80	77		82
4	92	83	77	71	90	82	76	71	80	74	70		78	73	69		76
5	86	76	69	64	84	75	68	64	73	67	63		71	66	62		70
6	80	70	62	57	79	69	62	57	67	61	57		66	60	56		64
7	75	64	57	52	74	63	56	51	62	56	51		60	55	51		59
8	70	59	52	47	69	58	51	46	57	51	46		56	50	46		55
9	66	54	47	42	64	54	47	42	53	46	42		52	46	42		51
10	62	50	43	38	60	50	43	38	49	42	38		48	42	38		47

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	19540	19540	19540
5°	45783	18438	12895
10°	180902	16202	10752
15°	334808	12978	9428
20°	429299	9443	8536
25°	513650	6702	7557
30°	546167	4407	6656
35°	559739	2661	5795
40°	512398	1720	4983
45°	369729	1206	4083
50°	161412	980	3391
55°	11113	811	2854
60°	2015	794	2344
65°	734	734	1673
70°	680	906	1161
75°	599	1198	1198
80°	0	1785	1339
85°	0	3557	889



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.4	1.8
10°-20°	230.8	14.2
20°-30°	483.3	29.6
30°-40°	538.0	33.0
40°-50°	308.8	18.9
50°-60°	30.9	1.9
60°-70°	4.8	0.3
70°-80°	3.1	0.2
80°-90°	1.9	0.1
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°	743.5	45.6
0°-40°	1281.5	78.6
0°-60°	1621.2	99.4
0°-90°	1631.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1631.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	202	202	202	202	202	
5°	471	325	190	138	133	86
15°	3338	1333	129	91	94	944
25°	4805	1834	63	55	71	2176
35°	4733	560	22	32	49	2890
45°	2699	68	9	18	30	2061
55°	66	10	5	10	17	197
65°	3	2	3	6	7	4
75°	2	2	3	4	3	1
85°	0	2	3	2	1	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7
2.5°	301.3	294.9	288.4	284.5	280.4	286.0	282.1	280.4	269.1	263.5	258.7
5°	470.8	458.7	441.0	426.6	412.2	415.4	404.2	390.6	362.3	342.2	324.6
7.5°	908.6	879.0	824.3	771.3	718.2	708.6	673.3	612.2	533.5	474.0	422.6
10°	1839.0	1749.0	1648.6	1540.2	1413.3	1377.9	1290.3	1124.8	944.0	737.6	588.2
12.5°	2714.8	2673.8	2555.7	2415.1	2277.7	2193.4	2102.6	1829.4	1542.6	1209.9	931.9
15°	3338.3	3313.4	3209.8	3081.9	2934.2	2879.5	2768.7	2496.3	2133.8	1736.2	1332.9
17.5°	3800.2	3757.6	3649.1	3510.2	3335.0	3288.5	3155.8	2885.2	2509.1	2109.8	1662.3
20°	4164.2	4137.6	3997.1	3830.0	3620.2	3564.1	3409.0	3127.0	2718.1	2293.8	1838.3
22.5°	4491.2	4446.2	4273.4	4074.2	3834.8	3774.6	3601.8	3292.4	2853.0	2380.6	1869.6
25°	4805.4	4737.1	4527.4	4266.3	3985.0	3903.1	3713.4	3385.8	2902.9	2387.8	1834.2
27.5°	4897.0	4862.4	4668.8	4365.1	4039.7	3947.4	3749.6	3406.6	2884.3	2321.9	1707.3
30°	4882.5	4853.6	4692.1	4374.6	4030.0	3932.9	3731.9	3342.2	2776.7	2150.0	1483.1
32.5°	4836.7	4825.4	4630.2	4291.1	3940.0	3833.9	3617.0	3182.4	2575.0	1888.2	1083.8
35°	4733.0	4688.8	4445.4	4126.4	3789.0	3672.6	3427.4	2953.4	2309.1	1374.6	560.1
37.5°	4429.4	4394.8	4202.7	3923.2	3594.6	3445.1	3186.5	2657.8	1787.7	781.8	335.0
40°	4051.8	4034.9	3883.8	3634.0	3282.9	3114.1	2833.0	2174.9	1091.0	444.3	220.9
42.5°	3664.5	3659.7	3498.2	3237.0	2856.2	2662.6	2370.9	1467.0	580.1	268.3	127.7
45°	2698.7	2727.7	2615.2	2458.6	2167.7	2027.0	1648.6	756.1	334.2	148.6	67.5
47.5°	1892.9	1860.8	1661.5	1387.6	1121.6	949.6	718.2	357.5	178.4	77.9	38.6
50°	1071.0	1076.6	896.6	725.5	475.6	376.8	286.0	179.9	86.0	41.0	23.3
52.5°	279.5	292.5	252.3	217.0	184.8	150.2	121.4	77.9	41.0	24.2	15.3
55°	65.8	68.3	63.4	59.5	56.2	49.8	44.2	33.7	22.5	15.3	9.7
57.5°	23.3	24.2	23.3	23.3	22.5	21.8	20.1	17.7	13.6	9.7	6.5
60°	10.4	11.2	10.4	11.2	11.2	11.2	11.2	11.2	8.0	5.6	4.1
62.5°	4.8	4.8	4.8	4.8	5.6	5.6	6.5	6.5	4.8	4.1	3.2
65°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	2.4
67.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
70°	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4
72.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	1.6	1.6	1.6
80°	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	1.6	1.6	1.6
82.5°	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	1.6	1.6	1.6
85°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	1.6	1.6
87.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	1.6	1.6
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7
2.5°	249.9	249.1	240.2	233.8	230.6	225.8	220.2	212.1	203.4	195.2	192.0
5°	303.7	293.3	274.8	259.5	252.3	245.0	232.2	217.8	204.1	189.6	182.4
7.5°	373.6	343.1	306.9	278.8	266.7	254.7	236.2	216.1	197.6	178.4	168.0
10°	469.3	398.6	335.8	290.9	273.2	257.1	230.6	205.7	185.6	164.7	151.0
12.5°	670.9	495.8	366.4	296.5	273.2	252.3	220.2	191.3	168.7	147.0	134.2
15°	966.6	669.3	433.0	302.2	267.6	241.0	204.1	172.7	148.6	129.4	117.3
17.5°	1205.1	829.2	515.8	316.6	260.3	225.8	183.1	150.2	127.7	110.0	100.5
20°	1325.7	896.6	553.6	319.0	242.6	201.7	158.3	127.0	106.8	91.6	83.5
22.5°	1323.3	875.0	519.8	279.5	212.9	174.3	133.4	104.4	88.4	76.3	69.9
25°	1239.7	774.5	433.9	223.4	171.9	144.6	108.5	84.3	71.5	62.7	57.0
27.5°	1083.0	629.1	323.8	165.4	134.2	114.1	84.3	67.5	57.0	50.6	46.6
30°	850.0	421.0	204.1	123.0	102.0	86.0	65.1	52.2	45.0	39.4	37.0
32.5°	468.4	219.4	137.4	89.9	74.6	62.7	48.2	37.8	33.0	28.9	28.1
35°	258.7	155.0	98.0	60.2	49.8	42.6	33.0	27.4	24.2	22.5	22.5
37.5°	183.1	99.6	58.6	37.8	32.2	28.1	22.5	19.2	18.5	17.7	17.7
40°	110.0	58.6	35.4	24.9	21.8	19.2	16.9	14.5	14.5	13.6	14.5
42.5°	60.2	35.4	24.2	17.7	15.3	14.5	12.1	11.2	11.2	11.2	12.1
45°	36.2	23.3	16.9	12.9	11.2	9.7	8.8	8.0	8.8	8.8	9.7
47.5°	23.3	16.9	11.2	8.0	7.3	6.5	5.6	6.5	6.5	7.3	8.0
50°	16.2	10.4	7.3	4.8	4.8	4.1	4.8	4.8	5.6	6.5	7.3
52.5°	10.4	7.3	4.8	4.1	3.2	3.2	3.2	4.1	4.8	5.6	6.5
55°	6.5	4.8	4.1	3.2	3.2	3.2	3.2	3.2	4.1	4.8	5.6
57.5°	4.8	4.1	3.2	2.4	2.4	2.4	3.2	3.2	4.1	4.1	4.8
60°	3.2	3.2	2.4	2.4	2.4	2.4	2.4	3.2	3.2	4.1	4.8
62.5°	3.2	3.2	2.4	2.4	2.4	2.4	3.2	3.2	3.2	4.1	4.1
65°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2	4.1
67.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	4.1
70°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	4.1
72.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2
75°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2	3.2
77.5°	1.6	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2	3.2
80°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2	3.2
82.5°	1.6	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2	3.2
85°	1.6	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2	3.2
87.5°	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7
2.5°	188.0	182.4	177.5	179.2	176.0	170.3	168.7	164.7	159.8	159.1	159.1
5°	174.3	165.4	158.3	157.4	154.2	147.8	146.2	142.2	138.2	137.4	136.6
7.5°	157.4	147.8	141.4	139.8	137.4	131.8	131.0	127.0	124.5	123.0	123.0
10°	140.6	131.8	126.2	125.3	123.8	118.9	118.2	114.9	112.6	111.7	110.9
12.5°	124.5	117.3	112.6	111.7	110.0	106.1	105.3	102.9	101.2	100.5	100.5
15°	109.3	102.9	98.8	98.0	97.3	93.2	93.2	91.6	90.8	90.8	91.6
17.5°	94.0	88.4	85.2	84.3	84.3	81.1	81.9	81.1	81.1	81.1	82.8
20°	78.7	73.9	71.5	72.3	70.7	69.9	70.7	70.7	70.7	72.3	74.6
22.5°	65.8	61.9	59.5	60.2	60.2	59.5	60.2	61.0	62.7	65.1	67.5
25°	53.8	50.6	49.8	50.6	50.6	50.6	52.2	53.8	55.4	57.8	60.2
27.5°	43.4	41.0	41.0	41.8	42.6	42.6	45.0	46.6	49.0	51.4	53.8
30°	34.6	33.7	33.7	35.4	35.4	36.2	39.4	41.0	42.6	45.0	47.4
32.5°	27.4	27.4	28.1	29.8	29.8	31.3	33.7	35.4	37.0	39.4	41.8
35°	22.5	23.3	24.2	24.9	25.7	26.6	28.9	30.6	32.2	34.6	36.2
37.5°	18.5	19.2	20.1	21.8	21.8	22.5	24.9	26.6	27.4	29.8	32.2
40°	15.3	16.2	16.9	18.5	18.5	19.2	21.8	22.5	23.3	25.7	28.1
42.5°	12.9	13.6	14.5	15.3	16.2	16.9	18.5	19.2	20.9	22.5	24.2
45°	10.4	11.2	12.1	12.9	13.6	14.5	15.3	16.9	17.7	19.2	20.9
47.5°	8.8	9.7	10.4	11.2	12.1	12.1	13.6	14.5	15.3	16.9	18.5
50°	8.0	8.8	9.7	9.7	10.4	11.2	12.1	12.9	13.6	14.5	16.2
52.5°	6.5	7.3	8.0	8.8	8.8	9.7	10.4	11.2	12.1	12.9	13.6
55°	6.5	6.5	7.3	8.0	8.0	8.8	9.7	10.4	10.4	11.2	12.1
57.5°	5.6	6.5	6.5	7.3	7.3	8.0	8.8	8.8	9.7	9.7	10.4
60°	4.8	5.6	6.5	6.5	6.5	7.3	7.3	8.0	8.0	8.8	8.8
62.5°	4.8	5.6	5.6	6.5	6.5	6.5	7.3	7.3	7.3	8.0	8.0
65°	4.8	4.8	5.6	5.6	5.6	5.6	6.5	6.5	6.5	7.3	7.3
67.5°	4.1	4.8	4.8	4.8	5.6	5.6	5.6	5.6	5.6	6.5	6.5
70°	4.1	4.1	4.8	4.8	4.8	4.8	4.8	5.6	5.6	5.6	5.6
72.5°	4.1	4.1	4.1	4.1	4.8	4.8	4.8	4.8	4.8	4.8	4.8
75°	3.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
77.5°	3.2	3.2	3.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
80°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
82.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	2.4	2.4
85°	3.2	3.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
87.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6
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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	201.7	201.7	201.7	201.7	201.7	201.7	201.7	201.7
2.5°	155.9	154.2	153.5	155.9	152.6	154.2	153.5	154.2
5°	134.2	132.6	131.8	134.2	131.0	132.6	131.0	132.6
7.5°	120.6	119.7	118.9	120.6	118.2	119.7	118.9	119.7
10°	109.3	108.5	107.7	110.0	107.7	109.3	108.5	109.3
12.5°	99.6	99.6	98.8	100.5	98.8	100.5	99.6	100.5
15°	90.8	91.6	90.8	92.3	91.6	93.2	92.3	94.0
17.5°	83.5	84.3	84.3	86.7	86.0	88.4	87.6	88.4
20°	76.3	77.2	77.9	79.5	79.5	81.9	81.1	82.8
22.5°	69.0	70.7	70.7	73.1	73.1	75.5	75.5	76.3
25°	61.9	64.2	65.1	66.6	67.5	69.9	69.9	70.7
27.5°	56.2	57.8	58.6	61.0	61.9	64.2	64.2	65.8
30°	49.8	52.2	53.0	54.6	55.4	57.8	57.8	59.5
32.5°	44.2	45.8	47.4	49.0	49.8	52.2	52.2	53.8
35°	38.6	41.0	41.8	43.4	45.0	47.4	47.4	49.0
37.5°	33.7	36.2	37.0	38.6	40.2	42.6	42.6	44.2
40°	29.8	32.2	33.0	34.6	35.4	38.6	38.6	39.4
42.5°	26.6	28.1	28.9	30.6	31.3	33.0	33.0	34.6
45°	22.5	24.2	24.9	25.7	27.4	28.9	28.9	29.8
47.5°	19.2	20.9	21.8	22.5	23.3	24.9	24.9	26.6
50°	16.9	17.7	18.5	19.2	20.1	21.8	21.8	22.5
52.5°	14.5	15.3	16.2	16.9	17.7	18.5	19.2	20.1
55°	12.9	13.6	13.6	14.5	15.3	16.2	16.2	16.9
57.5°	11.2	12.1	12.1	12.1	12.9	13.6	13.6	14.5
60°	9.7	10.4	10.4	10.4	11.2	11.2	11.2	12.1
62.5°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
65°	7.3	7.3	7.3	7.3	7.3	7.3	6.5	7.3
67.5°	6.5	6.5	6.5	5.6	5.6	5.6	5.6	5.6
70°	5.6	5.6	5.6	4.8	4.8	4.8	4.1	4.1
72.5°	4.8	4.8	4.8	4.1	4.1	4.1	3.2	3.2
75°	4.1	4.1	4.1	4.1	3.2	3.2	3.2	3.2
77.5°	3.2	3.2	3.2	3.2	3.2	3.2	2.4	2.4
80°	3.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4
82.5°	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6
85°	1.6	1.6	1.6	1.6	1.6	1.6	0.8	0.8
87.5°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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Peachtree City, GA 30269

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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)