

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: P1219449

Luminaire Tested: **LDSQA4A10950D010TE LAR25NF 4LSQA1H 30°**

Issue Date: 3/3/2020

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

**Test Information**

Test Method: LM-41-14
Report Number: P1219449
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26800)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA4A10950D010TE LAR25NF 4LSQA1H 30°
Description: PORTFOLIO 4" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 25° NARROW FLOOD, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

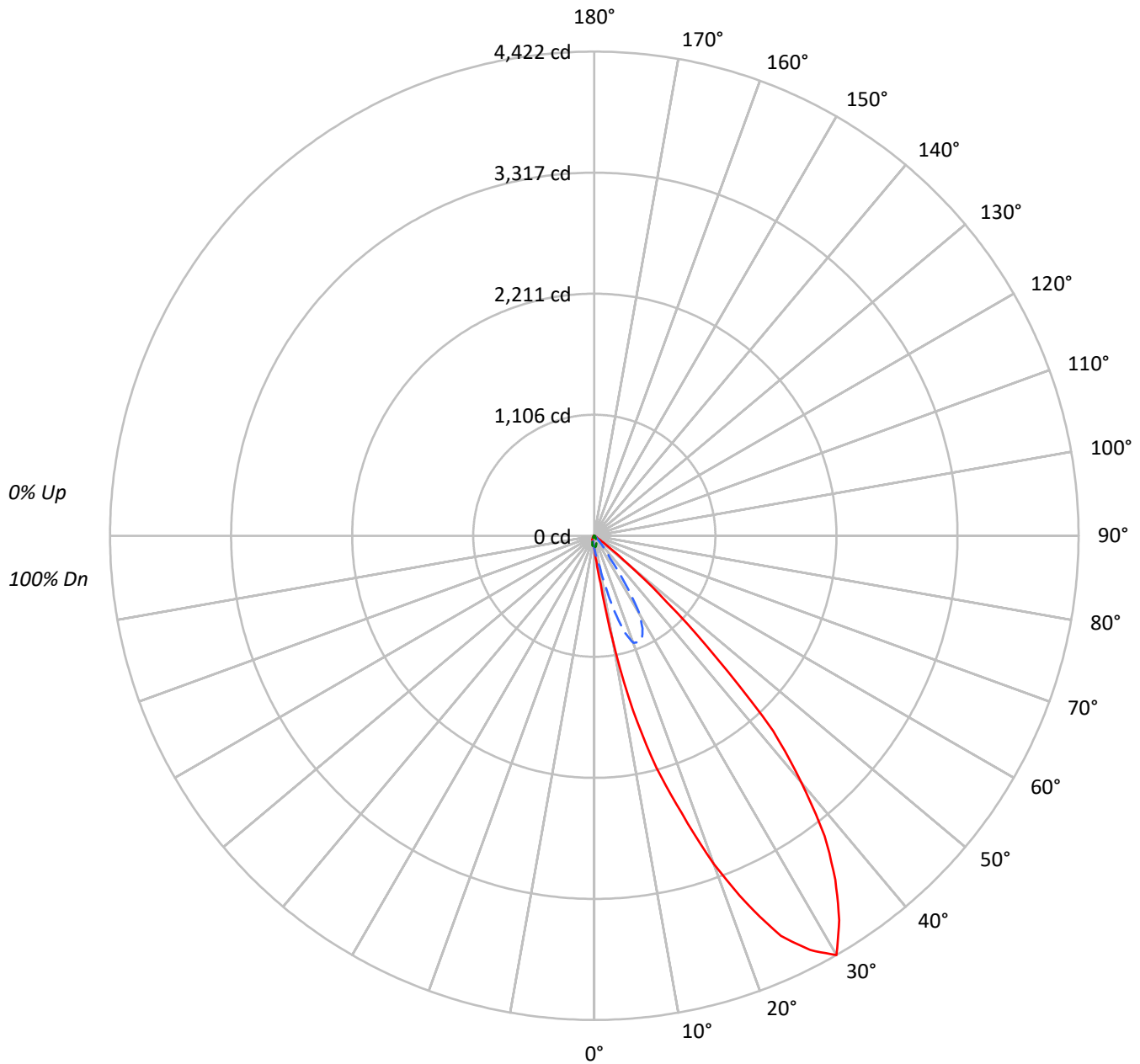
Lumens per Lamp: N/A
Luminaire Lumens: 1065.4 lumens
Efficiency: N/A
Efficacy: 85.9 lumens/watt
Spacing Criteria (0/90/45): 2.38 / 0.59 / 1.18
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 12.4
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: P1219449

CATALOG NUMBER: LDSQA4A10950D010TE LAR25NF 4LSQA1H 30°

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1219449

CATALOG NUMBER: LDSQA4A10950D010TE LAR25NF 4LSQA1H 30°

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	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	113	109	106	104	110	107	105	102	103	101	99	99	98	96	96	95	93
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	84
3	99	91	86	81	97	90	85	80	87	83	79	85	81	78	82	79	76
4	93	84	77	72	91	82	76	72	80	75	71	78	73	70	76	72	69
5	87	77	70	64	85	76	69	64	74	68	64	72	67	63	70	66	62
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	56
7	76	64	57	52	74	64	57	52	62	56	52	61	56	51	60	55	51
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42
10	62	50	44	39	61	50	43	39	49	43	39	48	43	39	47	42	38

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10782	10782	10782
5°	23845	10191	7157
10°	95488	8853	5981
15°	220103	7041	5255
20°	328567	5000	4680
25°	430949	3335	4179
30°	494688	2103	3658
35°	453574	1336	3158
40°	371950	885	2681
45°	215628	617	2165
50°	61113	452	1793
55°	5607	422	1503
60°	872	484	1240
65°	229	458	917
70°	283	566	708
75°	374	749	749
80°	0	1116	558
85°	0	2223	556



TEST NUMBER: P1219449

CATALOG NUMBER: LDSQA4A10950D010TE LAR25NF 4LSQA1H 30°

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	15.8	1.5
10°-20°	141.7	13.3
20°-30°	345.2	32.4
30°-40°	374.1	35.1
40°-50°	169.5	15.9
50°-60°	13.1	1.2
60°-70°	2.7	0.3
70°-80°	2.0	0.2
80°-90°	1.3	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°	502.7	47.2
0°-40°	876.8	82.3
0°-60°	1059.4	99.4
0°-90°	1065.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1065.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	111	111	111	111	111	
5°	245	181	105	79	74	44
15°	2195	718	70	51	52	638
25°	4032	1031	31	31	39	1838
35°	3835	262	11	18	27	2359
45°	1574	33	4	10	16	1243
55°	33	4	2	6	9	76
65°	1	2	2	4	4	2
75°	1	2	2	3	2	1
85°	0	2	2	2	0	0
90°	0	0	0	0	0	

TEST NUMBER: P1219449

CATALOG NUMBER: LDSQA4A10950D010TE LAR25NF 4LSQA1H 30°

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3
2.5°	166.6	163.7	165.2	161.2	158.7	156.7	157.8	156.7	150.3	148.8	143.9
5°	245.2	240.9	240.9	232.4	223.5	218.1	218.1	211.6	197.8	191.4	181.0
7.5°	439.6	430.7	423.3	397.1	363.0	343.7	338.7	311.6	276.4	254.2	228.0
10°	970.7	933.6	907.4	839.2	747.7	690.8	666.5	572.6	460.8	376.8	300.7
12.5°	1632.4	1581.9	1535.9	1424.2	1292.6	1203.1	1155.1	1016.7	799.6	644.3	482.1
15°	2194.6	2140.2	2085.8	1949.8	1810.8	1733.3	1645.2	1461.7	1174.9	954.4	718.0
17.5°	2656.0	2625.3	2569.4	2370.2	2195.1	2074.0	1982.4	1742.6	1447.4	1195.7	928.2
20°	3187.1	3111.4	3011.5	2769.7	2530.3	2378.6	2249.9	1957.7	1616.5	1327.2	1039.5
22.5°	3634.1	3580.2	3436.8	3117.8	2765.8	2636.2	2478.9	2127.3	1725.3	1383.1	1052.3
25°	4031.7	3947.1	3767.1	3387.8	3027.3	2806.8	2613.9	2219.3	1765.4	1387.0	1031.1
27.5°	4264.5	4154.3	3942.6	3529.2	3117.8	2874.0	2660.4	2235.2	1740.1	1334.6	953.4
30°	4422.3	4202.7	3968.8	3530.7	3089.1	2839.9	2618.4	2155.5	1635.3	1215.0	822.8
32.5°	4162.2	4035.1	3811.6	3390.3	2932.9	2689.5	2469.5	1983.0	1471.6	1037.5	572.6
35°	3835.3	3732.5	3538.2	3119.8	2698.5	2469.1	2235.6	1761.4	1258.5	713.0	262.1
37.5°	3455.5	3374.9	3165.8	2783.6	2412.7	2188.2	1954.3	1501.3	886.2	353.6	159.2
40°	2941.2	2873.0	2701.4	2394.4	2052.6	1839.0	1623.4	1123.0	481.1	197.3	103.9
42.5°	2417.6	2360.3	2204.0	1938.5	1638.3	1462.2	1272.3	684.4	239.3	124.1	57.8
45°	1573.9	1502.3	1418.2	1296.6	1148.3	1039.9	815.9	330.3	142.0	69.3	33.2
47.5°	902.4	855.0	717.0	565.7	459.4	419.3	305.1	153.8	78.1	40.0	20.3
50°	405.5	374.8	314.5	256.2	185.4	144.9	123.1	77.2	38.6	21.7	13.8
52.5°	99.8	101.8	96.4	84.6	75.2	63.8	55.4	36.1	20.3	13.3	8.9
55°	33.2	33.6	30.7	29.2	26.7	24.8	22.8	16.3	12.4	11.9	4.5
57.5°	11.9	11.9	12.4	11.3	10.9	10.4	9.9	8.4	7.4	4.5	2.5
60°	4.5	4.5	4.5	5.0	5.0	5.0	5.4	5.0	3.4	2.5	2.0
62.5°	2.0	2.0	2.0	2.0	2.5	2.5	3.0	2.5	2.0	2.0	1.5
65°	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
67.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5
70°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5
75°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5
77.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.0	1.0	1.5
80°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.0	1.0	1.5
82.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.0	1.0	1.5
85°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.0	1.5
87.5°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	1.0	1.0	1.0
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: P1219449

CATALOG NUMBER: LDSQA4A10950D010TE LAR25NF 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3
2.5°	138.9	136.0	130.1	125.6	122.1	121.7	118.7	113.8	111.8	108.3	105.4
5°	171.1	163.7	154.2	145.4	138.9	135.5	125.1	115.8	110.2	104.8	99.8
7.5°	205.7	188.9	172.5	158.3	149.3	143.9	131.6	116.2	106.3	98.4	91.9
10°	249.2	214.7	186.5	164.2	152.3	144.9	130.1	111.8	99.4	90.0	83.6
12.5°	348.6	254.2	199.3	167.1	152.3	142.0	124.1	105.9	91.9	80.6	73.6
15°	518.8	355.1	236.4	168.6	147.4	135.5	115.2	95.9	82.1	70.2	63.8
17.5°	678.9	467.3	295.3	179.0	144.4	126.0	103.4	84.6	70.2	58.9	53.5
20°	762.0	523.2	327.8	186.9	139.5	114.2	89.5	72.2	58.3	48.5	44.0
22.5°	764.0	518.2	312.0	168.6	121.2	97.9	76.6	59.4	47.4	39.1	35.6
25°	717.0	458.4	256.7	131.6	97.9	82.1	63.8	48.5	37.1	31.2	28.7
27.5°	628.5	370.9	189.4	95.0	76.6	65.3	49.9	37.1	28.2	24.2	22.8
30°	486.1	229.4	104.8	70.2	57.8	49.0	36.1	24.8	21.2	18.8	17.8
32.5°	241.3	112.2	74.2	49.9	39.5	31.2	22.8	18.3	16.3	14.9	14.4
35°	131.0	80.6	46.5	30.2	23.7	19.8	15.3	12.9	11.9	11.3	11.3
37.5°	91.5	47.9	28.2	18.3	14.9	13.3	10.9	9.4	8.9	8.9	8.9
40°	50.4	28.7	17.3	11.9	9.9	8.9	7.4	7.0	7.0	7.0	7.4
42.5°	29.2	17.8	11.9	8.4	7.0	6.4	5.4	5.0	5.4	5.4	5.9
45°	18.8	13.3	7.9	5.9	5.0	4.5	4.0	4.0	4.5	4.5	5.0
47.5°	13.3	9.4	5.4	4.0	3.0	3.0	3.0	3.0	3.4	4.0	4.5
50°	7.9	5.0	3.0	2.5	2.0	2.0	2.0	2.5	3.0	3.0	3.4
52.5°	4.5	3.0	2.0	2.0	1.5	1.5	2.0	2.0	2.5	3.0	3.4
55°	2.5	2.0	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.5	3.0
57.5°	2.0	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.5	2.5
60°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.5	2.5
62.5°	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.5
65°	1.5	1.5	1.5	2.0	1.5	2.0	2.0	2.0	2.0	2.0	2.5
67.5°	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5
70°	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5
72.5°	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5
75°	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
87.5°	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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: P1219449

CATALOG NUMBER: LDSQA4A10950D010TE LAR25NF 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3
2.5°	104.3	100.9	98.4	97.4	95.5	95.9	94.4	93.5	90.5	90.5	88.5
5°	96.4	91.9	89.0	87.6	85.6	85.1	83.6	82.1	79.1	78.6	77.2
7.5°	88.0	83.6	80.1	78.6	76.6	76.1	74.2	73.2	70.7	70.2	68.7
10°	79.1	74.2	71.2	69.7	67.7	67.7	66.2	65.3	63.3	63.3	62.3
12.5°	69.7	65.3	63.3	61.4	60.3	60.3	59.4	58.3	56.9	57.4	56.9
15°	59.8	56.4	54.4	53.5	52.9	52.9	52.4	51.9	51.0	51.9	51.0
17.5°	50.4	47.9	46.5	46.0	45.4	45.4	45.4	46.0	45.4	46.5	46.5
20°	41.5	39.5	38.6	38.6	38.1	39.1	39.1	40.0	40.0	41.5	42.0
22.5°	34.1	32.7	32.1	32.1	32.1	33.2	33.6	34.6	35.2	36.6	37.5
25°	27.2	26.7	26.7	26.7	27.2	28.2	29.2	30.2	30.7	32.7	33.2
27.5°	22.3	21.7	22.3	22.3	22.8	24.2	25.2	26.2	27.2	28.7	29.6
30°	17.8	17.8	18.3	18.8	19.2	20.3	21.7	22.8	23.7	25.2	26.2
32.5°	14.4	14.9	15.3	15.8	15.8	17.3	18.3	19.8	20.3	21.7	22.8
35°	11.9	12.4	12.9	13.3	13.3	14.9	15.8	16.8	17.8	18.8	19.8
37.5°	9.4	9.9	10.9	11.3	11.3	12.9	13.3	14.4	15.3	16.3	17.3
40°	7.9	8.4	9.4	9.4	9.9	10.9	11.3	12.4	13.3	14.4	15.3
42.5°	6.4	7.0	7.9	8.4	8.4	9.4	9.9	10.9	11.3	12.4	12.9
45°	5.9	5.9	7.0	7.0	7.4	7.9	8.9	9.4	9.9	10.9	11.3
47.5°	5.0	5.4	5.9	6.4	6.4	7.0	7.4	7.9	8.4	9.4	9.9
50°	4.0	4.5	5.4	5.4	5.4	6.4	7.0	7.4	7.4	7.9	8.4
52.5°	4.0	4.0	4.5	5.0	5.0	5.4	5.9	6.4	6.4	7.0	7.4
55°	3.4	3.4	4.0	4.5	4.5	5.0	5.4	5.4	5.9	5.9	6.4
57.5°	3.0	3.4	4.0	4.0	4.0	4.5	5.0	5.0	5.4	5.4	5.9
60°	3.0	3.4	3.4	4.0	4.0	4.5	4.5	4.5	5.0	5.0	5.0
62.5°	3.0	3.0	3.4	3.4	3.4	4.0	4.0	4.5	4.5	4.5	4.5
65°	3.0	3.0	3.4	3.4	3.4	4.0	4.0	4.0	4.0	4.0	4.0
67.5°	2.5	3.0	3.0	3.0	3.4	3.4	3.4	3.4	3.4	3.4	3.4
70°	2.5	2.5	3.0	3.0	3.0	3.4	3.4	3.4	3.4	3.4	3.4
72.5°	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
75°	2.5	2.5	2.5	2.5	2.5	3.0	3.0	3.0	3.0	2.5	2.5
77.5°	2.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.0
80°	2.0	2.0	2.5	2.0	2.5	2.5	2.5	2.5	2.0	2.0	2.0
82.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5
85°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.0
87.5°	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.0	1.0
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: P1219449

CATALOG NUMBER: LDSQA4A10950D010TE LAR25NF 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	111.3	111.3	111.3	111.3	111.3	111.3	111.3	111.3
2.5°	87.6	88.5	87.6	88.5	86.0	87.0	88.0	85.6
5°	76.1	75.2	75.6	76.6	74.7	75.2	75.6	73.6
7.5°	68.2	68.7	67.7	68.7	67.3	67.7	68.2	66.8
10°	61.8	62.3	61.8	62.3	60.8	61.8	62.3	60.8
12.5°	55.8	56.9	56.4	57.4	55.8	56.9	57.8	55.8
15°	51.4	52.4	51.9	52.9	51.9	52.9	53.9	52.4
17.5°	47.0	47.9	47.9	49.0	48.5	49.4	50.4	49.0
20°	42.5	44.0	44.0	45.0	45.0	45.4	47.0	45.4
22.5°	38.6	40.0	40.0	41.1	41.1	42.0	43.1	42.0
25°	34.1	36.1	36.6	37.5	37.5	38.6	40.0	39.1
27.5°	31.2	32.7	33.2	34.1	34.6	35.6	36.6	35.6
30°	27.2	29.2	29.6	30.7	31.2	32.7	33.2	32.7
32.5°	24.2	25.7	26.2	27.2	28.2	29.2	30.2	29.6
35°	21.2	22.8	23.2	24.2	24.8	26.2	27.2	26.7
37.5°	18.8	20.3	20.8	21.2	21.7	23.2	24.2	23.7
40°	16.3	17.3	17.8	18.8	19.2	20.3	21.2	21.2
42.5°	14.4	15.3	15.8	16.3	16.8	17.8	18.8	18.3
45°	12.4	13.3	13.8	14.4	14.9	15.3	16.3	15.8
47.5°	10.4	11.3	11.9	12.4	12.9	13.3	14.4	13.8
50°	8.9	9.9	9.9	10.4	10.9	11.3	12.4	11.9
52.5°	7.9	8.4	8.9	8.9	9.4	9.9	10.9	10.4
55°	7.0	7.4	7.4	7.9	7.9	8.4	8.9	8.9
57.5°	5.9	6.4	6.4	7.0	7.0	7.4	7.9	7.9
60°	5.4	5.4	5.9	5.9	5.9	6.4	6.4	6.4
62.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
65°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
67.5°	3.4	3.4	3.4	3.4	3.4	3.0	3.0	3.0
70°	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5
72.5°	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.0
75°	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0
77.5°	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
80°	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.0
82.5°	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.0
85°	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.5
87.5°	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



Report Generated By 670245859 / DESKTOP-T8S5UU9

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



— 0°-180° - - 45°-225° - - - 90°-270°

Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



Classified

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)