

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: P1219507

Luminaire Tested: **LDSQA4A15940D010TE LAR25NF 4LSQAL1H 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: P1219507
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26803)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA4A15940D010TE LAR25NF 4LSQAL1H 30°
Description: PORTFOLIO 4" SQUARE LENSED ADJUSTABLE, SELF-FLANGED, 25° NARROW FLOOD, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

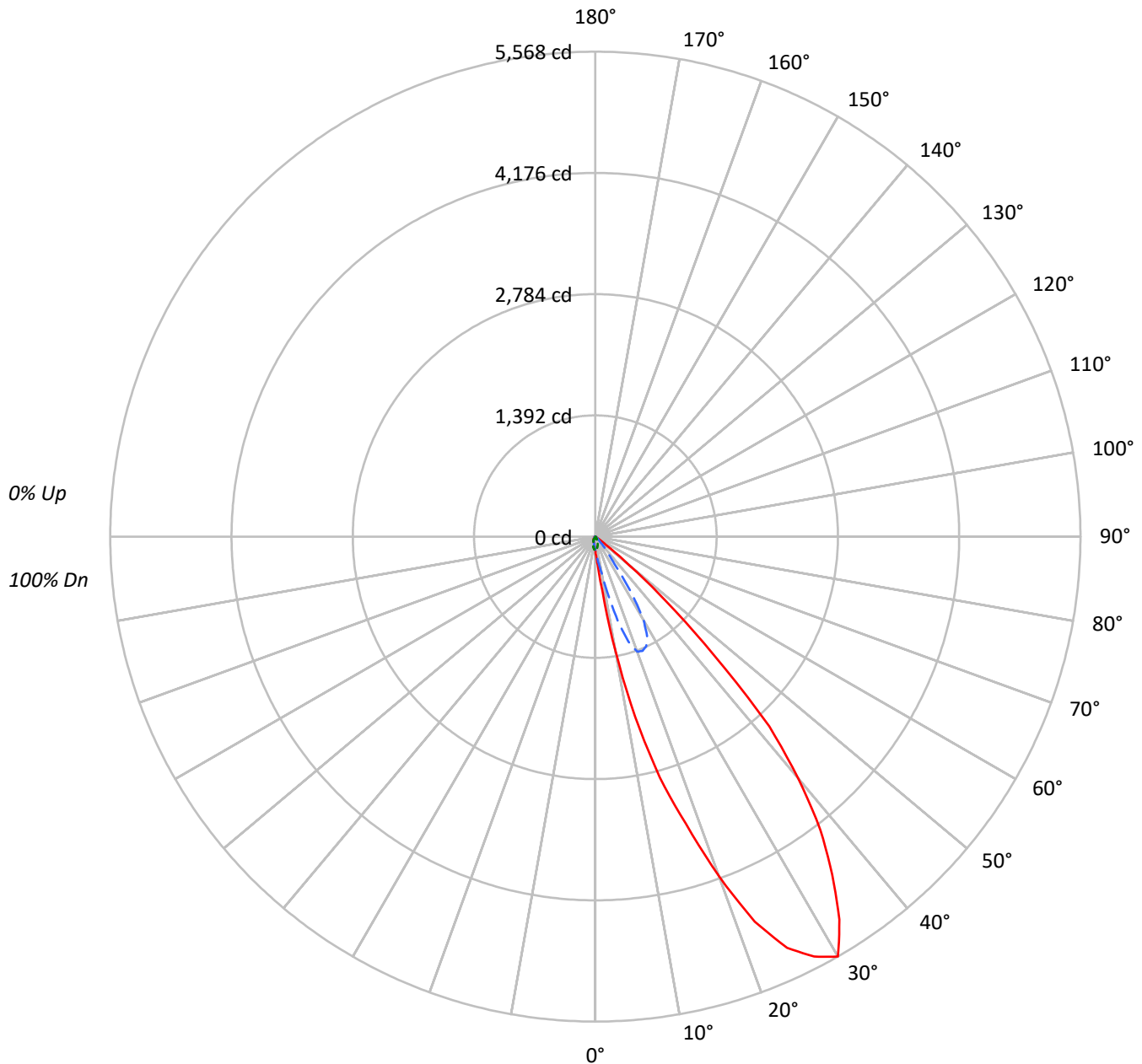
Lumens per Lamp: N/A
Luminaire Lumens: 1394.7 lumens
Efficiency: N/A
Efficacy: 68.4 lumens/watt
Spacing Criteria (0/90/45): 2.37 / 0.61 / 1.19
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20.4
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

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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	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	85
3	99	91	86	81	97	90	85	80		87	83	79		85	81	78		82	79	76
4	93	84	77	72	91	83	76	72		80	75	71		78	74	70		76	72	69
5	87	77	70	65	85	76	69	64		74	68	64		72	67	63		70	66	63
6	81	70	63	58	79	69	63	58		68	62	57		66	61	57		65	60	57
7	76	65	57	52	74	64	57	52		62	56	52		61	56	52		60	55	51
8	71	59	52	47	69	59	52	47		58	51	47		57	51	47		55	50	47
9	66	55	48	43	65	54	48	43		53	47	43		52	47	43		51	46	42
10	62	51	44	39	61	50	44	39		49	43	39		48	43	39		48	42	39

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	15054	15054	15054
5°	33705	14159	10143
10°	132189	12395	7997
15°	286958	10039	6950
20°	428103	7443	6278
25°	556812	5238	5462
30°	622904	3524	4777
35°	560567	2070	4068
40°	457489	1416	3541
45°	262675	959	2877
50°	76833	754	2426
55°	8867	591	2010
60°	1899	678	1628
65°	642	642	1146
70°	595	793	793
75°	524	1048	786
80°	0	1562	781
85°	0	3112	778



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.3	1.6
10°-20°	190.9	13.7
20°-30°	455.5	32.7
30°-40°	480.7	34.5
40°-50°	218.0	15.6
50°-60°	19.1	1.4
60°-70°	4.0	0.3
70°-80°	2.6	0.2
80°-90°	1.6	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°	668.7	47.9
0°-40°	1149.3	82.4
0°-60°	1386.4	99.4
0°-90°	1394.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1394.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	155	155	155	155	155	
5°	347	254	146	112	104	62
15°	2861	1006	100	69	69	832
25°	5209	1385	49	42	51	2366
35°	4740	382	18	24	34	2927
45°	1917	54	7	13	21	1520
55°	52	8	4	8	12	105
65°	3	3	3	6	5	4
75°	1	1	3	4	2	1
85°	0	1	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°	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4
2.5°	231.1	232.5	226.2	226.9	220.6	223.3	221.3	215.7	211.5	204.4	201.7
5°	346.6	348.8	334.7	330.6	315.8	315.8	309.5	294.8	281.5	265.4	254.2
7.5°	633.7	642.1	600.1	568.7	522.4	511.2	489.5	439.1	397.8	355.7	324.2
10°	1343.8	1328.4	1241.6	1170.1	1051.1	1006.9	948.1	803.2	670.1	537.8	434.1
12.5°	2119.0	2168.7	2001.3	1943.2	1754.9	1715.0	1589.5	1352.9	1128.1	894.3	687.0
15°	2861.2	2876.0	2729.6	2635.1	2405.4	2353.5	2199.5	1921.5	1618.9	1292.6	1006.2
17.5°	3457.2	3516.0	3301.1	3199.5	2901.2	2817.8	2636.5	2298.3	1961.4	1605.0	1265.3
20°	4152.6	4167.9	3913.1	3717.6	3327.6	3200.9	2983.8	2564.3	2163.1	1756.3	1405.4
22.5°	4784.9	4781.3	4453.6	4177.7	3684.1	3532.8	3264.6	2767.4	2301.1	1823.5	1418.7
25°	5209.2	5220.4	4869.6	4543.3	3937.5	3733.1	3430.5	2873.2	2348.0	1821.4	1385.1
27.5°	5435.4	5424.2	5048.1	4699.4	4030.7	3801.7	3473.3	2876.6	2305.2	1749.9	1284.2
30°	5568.5	5418.6	5017.3	4655.3	3967.6	3732.4	3398.4	2766.1	2163.1	1590.2	1104.3
32.5°	5212.7	5154.6	4805.2	4420.7	3750.6	3517.4	3187.6	2530.7	1937.6	1345.9	791.3
35°	4740.0	4742.1	4401.1	4041.9	3410.3	3207.2	2866.8	2244.3	1662.4	935.6	382.3
37.5°	4244.2	4251.3	3927.0	3593.0	3030.7	2817.1	2498.6	1918.0	1196.0	476.2	230.4
40°	3617.6	3632.2	3352.8	3084.6	2565.8	2359.9	2075.5	1451.6	668.7	266.1	156.1
42.5°	2955.7	2974.0	2726.1	2488.0	2046.8	1877.4	1625.3	899.1	331.9	172.3	91.8
45°	1917.3	1969.8	1785.7	1685.5	1430.0	1329.1	1060.9	458.7	200.3	100.9	54.0
47.5°	1097.3	1098.0	942.6	754.9	619.0	538.5	420.8	208.7	116.9	56.7	32.9
50°	509.8	522.4	413.8	344.5	246.5	208.7	171.6	112.8	61.6	32.9	20.3
52.5°	148.5	156.8	142.2	128.8	109.2	97.3	83.4	55.3	32.2	19.6	12.6
55°	52.5	56.0	52.5	49.0	44.2	39.9	35.7	26.6	18.2	11.9	8.4
57.5°	21.7	22.4	21.7	21.0	19.6	19.6	17.5	14.8	11.2	7.7	5.6
60°	9.8	10.5	9.8	10.5	9.8	9.8	9.8	10.5	7.0	5.0	4.2
62.5°	4.2	5.0	5.0	5.0	5.0	5.6	5.6	5.0	4.2	3.5	2.8
65°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
67.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
70°	2.1	2.1	2.1	2.1	2.1	2.1	1.4	1.4	2.1	2.1	2.1
72.5°	2.1	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4	2.1	2.1
75°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
77.5°	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.7	1.4	1.4	1.4
80°	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.4	1.4	1.4
82.5°	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.7	1.4	1.4	1.4
85°	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.4	1.4	1.4
87.5°	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.4	1.4	1.4
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°	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4
2.5°	198.2	191.9	182.1	175.7	173.0	168.8	165.9	159.0	156.1	150.6	148.5
5°	243.7	231.1	216.4	204.4	196.8	188.4	175.7	161.8	154.7	145.6	140.8
7.5°	295.5	268.2	242.3	221.3	211.5	200.3	184.1	162.5	149.2	137.2	130.3
10°	361.4	305.3	264.7	231.1	216.4	201.7	182.1	156.8	140.1	126.0	118.3
12.5°	515.4	368.4	285.0	236.7	217.8	199.6	175.0	149.2	129.6	113.5	105.0
15°	741.6	514.7	339.7	241.6	212.8	190.5	162.5	136.5	116.2	100.1	91.8
17.5°	941.9	656.2	415.2	259.8	211.5	180.0	147.0	120.5	100.9	85.4	78.4
20°	1051.1	730.3	465.7	271.0	205.1	163.8	129.6	104.3	85.4	72.2	65.8
22.5°	1053.2	726.2	447.5	246.5	180.7	142.2	112.1	88.2	71.4	59.5	54.6
25°	990.2	647.8	373.2	193.9	147.7	120.5	93.9	73.6	58.1	49.0	44.8
27.5°	872.5	526.6	274.5	140.1	115.5	97.3	75.6	58.8	45.5	39.9	36.4
30°	686.3	343.1	160.4	104.3	89.6	74.9	57.4	41.3	35.7	31.5	28.7
32.5°	368.4	166.6	112.1	77.0	63.8	52.5	37.8	30.1	25.9	23.1	22.4
35°	192.6	121.9	74.9	49.0	40.6	34.4	25.9	21.0	18.9	17.5	17.5
37.5°	137.9	76.3	47.6	31.5	26.6	21.7	18.2	15.4	14.0	14.0	14.0
40°	82.0	46.9	28.7	20.3	17.5	15.4	13.3	11.2	11.2	11.2	11.2
42.5°	49.7	29.4	20.3	14.0	12.6	11.2	9.8	9.1	8.4	8.4	9.1
45°	30.8	20.3	13.3	10.5	9.8	8.4	7.7	7.0	7.0	7.0	7.7
47.5°	19.6	14.8	9.8	7.0	6.3	5.6	5.0	5.0	5.6	5.6	6.3
50°	14.8	9.1	6.3	5.0	4.2	4.2	3.5	4.2	4.2	5.0	5.6
52.5°	8.4	5.6	4.2	3.5	3.5	2.8	2.8	3.5	3.5	4.2	5.0
55°	5.6	4.2	3.5	2.8	2.8	2.8	2.8	2.8	3.5	3.5	4.2
57.5°	4.2	3.5	2.8	2.8	2.8	2.1	2.8	2.8	2.8	3.5	4.2
60°	3.5	2.8	2.8	2.8	2.8	2.1	2.1	2.8	2.8	3.5	3.5
62.5°	2.8	2.8	2.8	2.8	2.8	2.1	2.8	2.8	2.8	2.8	3.5
65°	2.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.5
67.5°	2.1	2.1	2.8	2.8	2.8	2.1	2.8	2.8	2.8	2.8	3.5
70°	2.1	2.1	2.1	2.8	2.8	2.1	2.8	2.8	2.8	2.8	2.8
72.5°	2.1	2.1	2.1	2.8	2.8	2.1	2.8	2.8	2.8	2.8	2.8
75°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.8	2.8	2.8
77.5°	2.1	2.1	2.1	2.1	2.8	2.1	2.8	2.8	2.8	2.8	2.8
80°	2.1	2.1	2.1	2.1	2.1	2.1	2.8	2.8	2.8	2.8	2.8
82.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.8	2.8	2.8	2.8
85°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.8	2.8	2.8	2.8
87.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.8	2.8	2.8
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4
2.5°	142.9	140.8	136.5	135.8	135.1	132.4	130.3	128.1	128.1	126.0	124.6
5°	132.4	128.8	123.9	121.9	121.2	117.6	114.8	112.8	112.1	110.0	107.8
7.5°	121.2	116.9	111.4	109.2	108.5	105.0	102.3	100.1	98.7	96.6	95.2
10°	109.2	104.3	99.4	97.3	96.6	93.2	91.1	88.9	87.5	86.1	84.7
12.5°	96.6	92.5	87.5	85.4	84.7	82.0	79.8	78.4	77.7	76.3	75.6
15°	84.1	79.8	75.6	74.2	73.6	71.4	70.0	69.3	68.6	68.6	67.9
17.5°	71.4	67.9	64.4	63.8	63.1	61.6	60.9	60.2	60.9	60.9	61.6
20°	59.5	56.7	54.0	54.0	53.3	52.5	52.5	52.5	54.0	54.6	56.0
22.5°	49.0	46.9	44.8	44.8	44.8	44.8	44.8	46.2	47.6	49.0	49.7
25°	40.6	38.5	37.8	37.8	37.8	38.5	39.2	40.6	42.0	43.5	44.8
27.5°	32.9	31.5	31.5	31.5	32.2	32.9	33.7	35.0	37.1	38.5	39.9
30°	26.6	25.9	25.9	26.6	27.3	28.0	29.4	30.8	32.2	33.7	35.0
32.5°	21.0	21.7	21.7	22.4	23.1	23.8	25.2	26.6	28.0	29.4	30.1
35°	17.5	17.5	18.2	18.9	19.6	20.3	21.7	23.1	23.8	25.2	26.6
37.5°	14.0	14.8	15.4	16.1	16.8	17.5	18.2	19.6	20.3	21.7	23.1
40°	11.9	12.6	13.3	14.0	14.0	15.4	15.4	16.8	17.5	18.9	20.3
42.5°	9.8	10.5	11.2	11.9	11.9	12.6	13.3	14.0	15.4	16.1	17.5
45°	7.7	8.4	9.1	9.8	10.5	11.2	11.2	12.6	13.3	14.0	15.4
47.5°	7.0	7.7	8.4	8.4	9.1	9.8	9.8	11.2	11.9	12.6	13.3
50°	5.6	6.3	7.0	7.7	7.7	8.4	9.1	9.8	10.5	11.2	11.2
52.5°	5.0	5.6	6.3	6.3	7.0	7.7	7.7	8.4	9.1	9.1	9.8
55°	5.0	5.6	5.6	6.3	6.3	7.0	7.0	7.7	7.7	8.4	8.4
57.5°	4.2	5.0	5.0	5.6	5.6	6.3	6.3	7.0	7.0	7.0	7.7
60°	4.2	4.2	5.0	5.0	5.6	5.6	5.6	6.3	6.3	6.3	7.0
62.5°	3.5	4.2	4.2	5.0	5.0	5.0	5.6	5.6	5.6	6.3	6.3
65°	3.5	4.2	4.2	5.0	5.0	5.0	5.0	5.0	5.6	5.6	5.6
67.5°	3.5	3.5	4.2	4.2	4.2	4.2	5.0	5.0	5.0	5.0	5.0
70°	3.5	3.5	3.5	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
72.5°	2.8	3.5	3.5	3.5	3.5	4.2	4.2	4.2	4.2	4.2	3.5
75°	2.8	2.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
77.5°	2.8	2.8	2.8	3.5	3.5	3.5	3.5	3.5	3.5	2.8	2.8
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.1
82.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.1	2.1	2.1
85°	2.8	2.1	2.8	2.8	2.8	2.1	2.1	2.1	2.1	2.1	1.4
87.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.4	1.4
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: P1219507

CATALOG NUMBER: LDSQA4A15940D010TE LAR25NF 4LSQAL1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4
2.5°	123.3	121.9	122.6	122.6	121.2	120.5	120.5	121.2
5°	106.4	105.0	105.7	105.7	104.3	103.7	103.7	104.3
7.5°	93.9	92.5	93.2	93.2	91.8	91.8	91.8	91.8
10°	84.1	83.4	83.4	83.4	82.0	82.7	82.0	81.3
12.5°	74.9	74.9	74.9	74.9	74.2	74.9	74.2	74.2
15°	67.9	67.9	68.6	68.6	68.6	69.3	69.3	69.3
17.5°	62.4	63.1	63.8	64.4	64.4	65.1	65.1	65.1
20°	56.7	58.1	58.8	59.5	59.5	60.9	60.2	60.9
22.5°	51.1	52.5	53.3	54.0	54.6	55.3	55.3	56.0
25°	46.2	47.6	48.3	49.0	49.7	51.1	51.1	51.1
27.5°	41.3	42.7	43.5	44.8	45.5	46.9	46.9	46.9
30°	36.4	37.8	38.5	39.2	40.6	42.0	42.0	42.7
32.5°	31.5	33.7	34.4	35.0	36.4	37.8	38.5	38.5
35°	28.0	29.4	30.1	31.5	32.2	34.4	34.4	34.4
37.5°	24.6	25.9	27.3	28.0	28.7	30.1	30.8	31.5
40°	21.7	23.1	23.8	24.6	25.9	27.3	28.0	28.0
42.5°	18.9	20.3	21.0	21.7	22.4	23.8	23.8	23.8
45°	16.8	17.5	18.2	18.9	19.6	20.3	21.0	21.0
47.5°	14.0	15.4	15.4	16.1	16.8	18.2	18.2	18.9
50°	11.9	13.3	13.3	14.0	14.8	15.4	16.1	16.1
52.5°	10.5	11.2	11.9	11.9	12.6	13.3	14.0	14.0
55°	9.1	9.8	9.8	10.5	10.5	11.2	11.9	11.9
57.5°	7.7	8.4	9.1	9.1	9.1	9.8	9.8	10.5
60°	7.0	7.7	7.7	7.7	7.7	8.4	8.4	8.4
62.5°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
65°	5.6	5.6	5.6	5.6	5.0	5.0	5.0	5.0
67.5°	5.0	5.0	5.0	5.0	4.2	4.2	4.2	4.2
70°	4.2	4.2	4.2	4.2	3.5	3.5	3.5	2.8
72.5°	3.5	3.5	3.5	3.5	3.5	2.8	2.8	2.8
75°	3.5	2.8	2.8	2.8	2.8	2.8	2.1	2.1
77.5°	2.8	2.8	2.8	2.1	2.1	2.1	2.1	2.1
80°	2.1	2.1	2.1	2.1	2.1	1.4	1.4	1.4
82.5°	2.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4
85°	1.4	1.4	1.4	1.4	0.7	0.7	0.7	0.7
87.5°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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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— 0°-180° - - 45°-225° - - - 90°-270°

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