

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: P1191803

Luminaire Tested: **LDA4A30930D010TE LAR25NF 4LA1 30° Tilt**

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: P1191803
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25649)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A30930D010TE LAR25NF 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 25°
Narrow Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

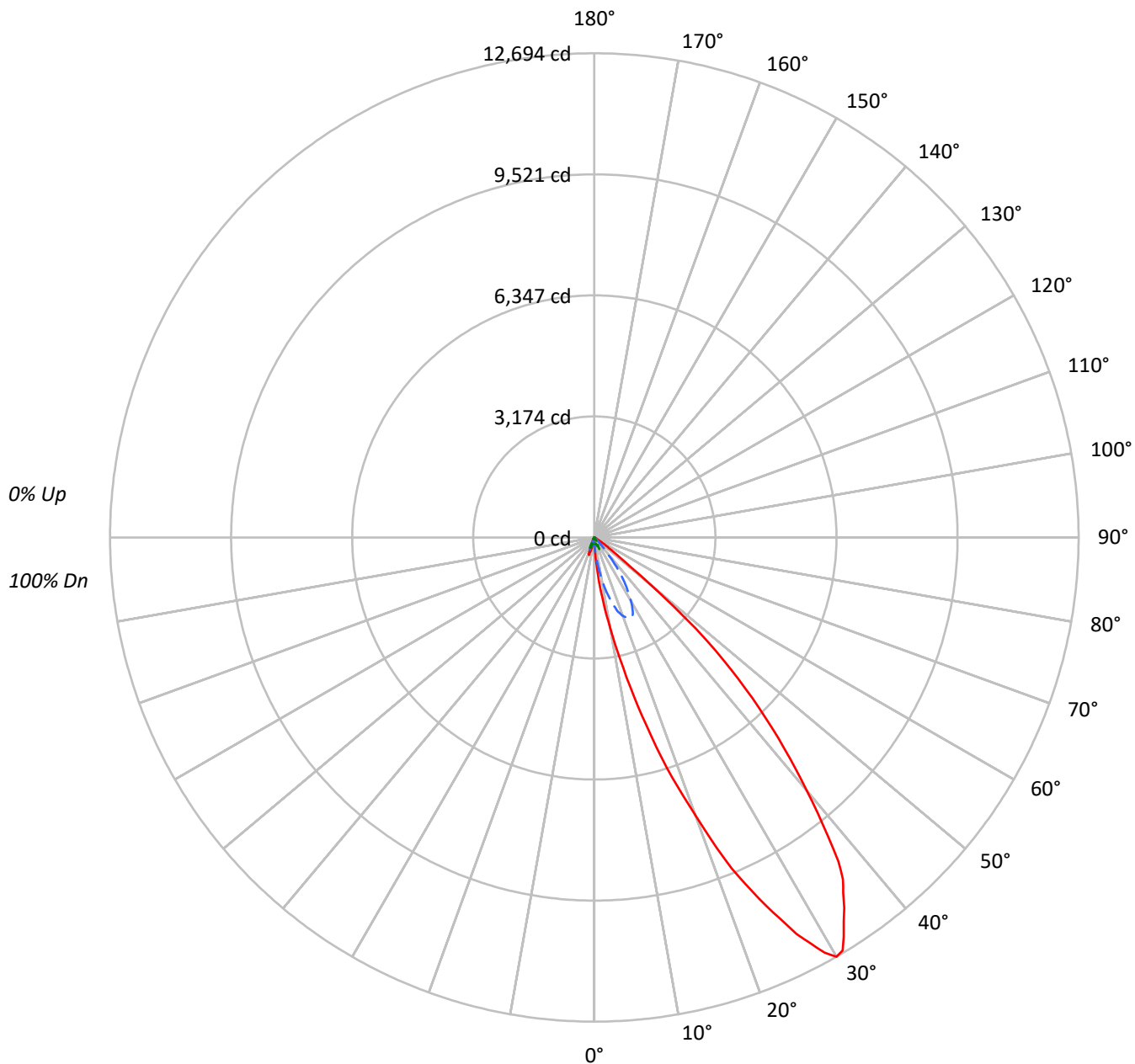
Lumens per Lamp: N/A
Luminaire Lumens: 2939.9 lumens
Efficiency: N/A
Efficacy: 74.6 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 39.4
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
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	105	100	95	91	103	98	93	90		95	91	88			91	88	86			89
3	99	91	85	80	96	89	84	79		87	82	78			84	80	77			82
4	92	83	76	71	90	82	75	71		79	74	70			77	73	69			75
5	86	76	69	63	84	75	68	63		73	67	62			71	66	62			69
6	80	69	62	57	78	68	61	56		67	61	56			65	60	56			64
7	75	63	56	51	73	63	56	51		61	55	50			60	54	50			59
8	70	58	51	46	68	58	51	46		56	50	46			55	49	45			54
9	65	53	46	41	64	53	46	41		52	46	41			51	45	41			50
10	61	49	42	38	60	49	42	38		48	42	37			47	41	37			46

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	24028	24028	24028
5°	104427	22671	13731
10°	301097	20403	14930
15°	616967	22526	43123
20°	1017895	41899	43671
25°	1450017	26743	14630
30°	1807943	11722	5754
35°	1713057	5300	2530
40°	1395238	2705	805
45°	977301	1465	0
50°	366225	959	0
55°	78040	1075	0
60°	14925	814	0
65°	4436	1459	0
70°	1190	1803	0
75°	0	2383	0
80°	0	3552	0
85°	0	7076	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.9	1.4
10°-20°	352.1	12.0
20°-30°	899.4	30.6
30°-40°	1041.6	35.4
40°-50°	537.4	18.3
50°-60°	55.5	1.9
60°-70°	5.9	0.2
70°-80°	3.8	0.1
80°-90°	3.4	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°	1292.3	44.0
0°-40°	2334.0	79.4
0°-60°	2926.8	99.6
0°-90°	2939.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2939.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	195	195	195	195	195	
5°	843	438	183	121	111	131
15°	4832	1769	176	235	338	1479
25°	10654	2310	196	123	108	4950
35°	11377	1263	35	20	17	6967
45°	5603	148	8	5	0	4196
55°	363	22	5	3	0	454
65°	15	5	5	3	0	20
75°	0	3	5	5	0	0
85°	0	3	5	5	0	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	194.8	194.8	194.8	194.8	194.8	194.8	194.8	194.8	194.8	194.8	194.8
2.5°	336.0	324.2	315.8	319.2	337.7	317.5	319.2	312.5	309.2	305.7	297.3
5°	843.4	809.7	787.8	789.6	740.9	777.8	774.5	745.9	727.4	692.1	672.0
7.5°	1582.5	1510.3	1485.1	1476.6	1481.8	1446.4	1431.3	1394.3	1345.7	1281.8	1244.9
10°	2404.0	2360.4	2345.2	2318.3	2316.7	2254.5	2217.5	2170.6	2073.1	1984.1	1918.5
12.5°	3502.8	3368.4	3344.7	3294.4	3280.9	3175.1	3097.8	3029.0	2865.9	2748.4	2644.2
15°	4831.5	4722.3	4747.5	4593.1	4551.0	4377.9	4233.5	4085.6	3821.8	3642.2	3457.4
17.5°	6340.1	6200.7	6217.5	6024.3	5676.6	5708.5	5498.4	5295.2	4924.0	4683.7	4398.1
20°	7754.7	7655.5	7662.3	7405.2	7287.7	6968.5	6687.9	6446.0	5952.0	5646.3	5268.4
22.5°	9382.5	9125.6	9076.8	8727.4	8520.7	8092.4	7700.9	7380.0	6782.0	6437.6	5973.9
25°	10654.3	10477.8	10343.4	9930.2	9642.9	9085.2	8631.6	8156.2	7437.1	7055.8	6504.8
26°	11131.4	10965.1	10792.0	10346.8	10024.3	9434.6	8940.8	8430.1	7660.5	7252.3	6652.6
27°	11670.6	11398.5	11190.2	10691.2	10341.8	9721.9	9135.6	8653.5	7830.3	7378.4	6746.7
28°	12051.9	11779.8	11504.3	10961.6	10583.7	9935.2	9325.4	8799.6	7929.4	7438.8	6785.4
29°	12443.4	12154.4	11752.9	11161.6	10750.1	10068.0	9434.6	8871.8	7958.0	7435.5	6765.2
30°	12693.8	12403.0	11884.0	11274.1	10839.1	10121.7	9464.8	8858.3	7912.6	7368.3	6691.2
31°	12634.9	12367.8	11852.1	11286.0	10830.7	10089.8	9409.4	8762.6	7798.4	7249.0	6556.8
32°	12340.9	12114.2	11722.7	11207.0	10738.3	9980.6	9280.0	8611.4	7633.8	7109.6	6393.9
33°	12000.0	11811.7	11541.3	11047.4	10577.0	9815.9	9102.0	8424.9	7443.8	6919.8	6197.4
34°	11714.3	11544.6	11294.3	10832.4	10356.9	9595.9	8876.9	8189.7	7227.1	6696.3	5965.5
35°	11376.6	11222.1	10990.3	10541.7	10051.1	9300.2	8594.7	7917.6	6971.8	6430.8	5696.7
36°	11082.7	10839.1	10603.9	10167.1	9678.2	8942.4	8262.0	7598.4	6682.9	6126.8	5394.4
37°	10627.4	10383.8	10131.8	9718.5	9236.4	8532.5	7892.4	7257.5	6353.5	5898.3	5071.7
38°	9947.1	9834.4	9582.5	9189.3	8740.8	8080.5	7487.5	6869.3	5982.4	5456.5	4729.0
39°	9311.9	9219.6	8974.3	8614.9	8199.9	7595.1	7039.0	6432.5	5564.0	5066.7	4367.9
40°	8665.2	8572.8	8342.6	8018.4	7645.5	7089.4	6561.9	5967.2	5125.5	4665.2	4005.0
42.5°	7133.1	7037.3	6988.6	6657.7	6262.9	5785.7	5296.9	4759.3	4043.7	3665.7	3148.2
45°	5602.6	5515.3	5332.2	5196.1	4843.3	4446.8	4048.7	3610.3	3082.7	2709.8	2226.0
47.5°	4005.0	3963.0	3969.7	3717.8	3381.8	3069.3	2740.0	2343.5	1876.6	1407.8	1033.2
50°	1908.5	1920.2	1967.2	1790.8	1538.9	1355.7	1160.9	910.5	665.3	522.5	404.8
51°	1236.4	1249.9	1290.3	1164.2	981.1	856.8	732.4	591.3	472.1	401.5	320.9
52°	836.6	836.6	845.0	771.1	680.3	609.8	537.6	455.3	367.9	315.8	253.6
53°	628.2	626.7	630.0	581.3	519.2	467.1	416.7	356.1	290.6	246.9	196.5
54°	480.5	478.8	482.1	445.2	401.5	362.9	324.2	278.8	225.2	184.8	147.9
55°	362.9	362.9	367.9	339.4	305.7	275.5	246.9	208.3	166.3	134.4	107.5
57.5°	146.1	146.1	151.2	141.1	126.0	114.2	104.2	89.0	73.9	62.1	50.4
60°	60.5	62.1	63.8	58.8	55.4	52.1	48.7	43.7	38.6	31.9	26.9
61°	45.4	45.4	47.1	43.7	41.9	38.6	36.9	33.6	30.2	25.2	21.9
62°	33.6	33.6	35.2	33.6	31.9	30.2	28.6	26.9	23.5	20.2	16.8
63°	25.2	25.2	26.9	25.2	25.2	23.5	21.9	20.2	18.5	15.2	13.5
64°	20.2	20.2	20.2	18.5	18.5	18.5	16.8	16.8	13.5	11.7	10.0
65°	15.2	15.2	15.2	15.2	13.5	13.5	13.5	11.7	11.7	8.4	8.4
66°	11.7	11.7	11.7	10.0	10.0	10.0	10.0	10.0	8.4	6.7	5.0



TEST NUMBER: P1191803

CATALOG NUMBER: LDA4A30930D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
72.5°	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
75°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7
82.5°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7
85°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7
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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	194.8	194.8	194.8	194.8	194.8	194.8	194.8	194.8	194.8	194.8	194.8
2.5°	300.7	299.0	282.3	282.3	289.0	278.8	273.8	262.1	225.2	191.5	161.3
5°	665.3	646.8	589.7	572.8	571.1	524.2	497.3	438.4	257.1	183.1	139.4
7.5°	1228.0	1172.6	1075.1	1023.2	959.3	922.3	856.8	755.9	292.3	171.3	126.0
10°	1816.0	1753.9	1609.5	1517.0	1468.3	1349.0	1239.9	1102.0	327.6	162.9	124.3
12.5°	2489.6	2350.2	2212.5	2047.9	1901.7	1795.8	1614.5	1453.2	351.1	161.3	136.1
15°	3218.8	3044.0	2808.8	2587.1	2380.5	2229.3	1985.8	1769.1	359.6	176.4	178.1
17.5°	4035.2	3707.6	3368.4	3065.9	2782.1	2578.7	2276.3	2021.0	354.4	216.7	283.9
20°	4799.6	4364.5	3904.3	3484.2	3082.7	2819.0	2469.6	2192.3	356.1	319.2	383.0
22.5°	5406.1	4876.9	4315.8	3803.4	3294.4	2978.6	2597.3	2283.1	399.8	341.1	260.4
25°	5853.0	5229.7	4586.3	3996.6	3460.7	3106.3	2687.9	2310.0	372.9	196.5	147.9
26°	5972.2	5315.3	4636.7	4025.2	3480.9	3106.3	2674.4	2281.4	322.5	156.2	122.7
27°	6039.5	5354.0	4645.0	4011.8	3455.7	3070.9	2625.8	2224.2	263.8	131.0	104.2
28°	6047.8	5337.2	4603.1	3956.2	3385.1	2995.3	2538.4	2136.9	218.4	110.9	85.7
29°	6002.4	5275.1	4522.5	3863.9	3277.6	2884.5	2419.2	2029.4	186.5	95.8	72.3
30°	5906.7	5165.9	4399.8	3739.5	3138.2	2750.1	2279.6	1910.1	162.9	82.3	60.5
31°	5769.0	5016.3	4267.1	3591.8	2992.0	2615.7	2148.7	1789.1	144.4	68.9	50.4
32°	5590.9	4840.0	4095.8	3432.2	2860.9	2488.0	2022.7	1666.6	129.4	58.8	41.9
33°	5392.6	4640.0	3909.3	3265.9	2735.0	2356.9	1890.0	1537.2	115.9	48.7	35.2
34°	5164.2	4420.0	3711.0	3099.5	2600.6	2212.5	1747.2	1404.5	100.8	40.4	30.2
35°	4903.8	4174.7	3497.6	2948.4	2451.1	2056.2	1597.6	1263.3	89.0	35.2	25.2
36°	4621.5	3919.3	3282.6	2775.3	2289.8	1893.3	1439.7	1120.5	77.3	30.2	21.9
37°	4325.8	3653.9	3067.6	2578.7	2111.7	1720.3	1276.8	965.9	67.1	25.2	18.5
38°	4013.4	3386.8	2859.2	2392.3	1923.5	1533.7	1110.5	796.3	58.8	21.9	16.8
39°	3694.3	3123.0	2652.7	2187.3	1730.4	1350.7	950.9	618.2	52.1	18.5	15.2
40°	3381.8	2874.4	2434.2	1963.9	1537.2	1170.9	796.3	455.3	45.4	16.8	11.7
42.5°	2677.9	2207.5	1747.2	1310.3	1071.8	742.6	441.9	238.6	31.9	11.7	8.4
45°	1752.2	1305.3	942.4	638.4	554.4	314.2	205.0	147.9	23.5	8.4	6.7
47.5°	725.7	529.2	367.9	265.4	215.0	168.0	131.0	95.8	16.8	6.7	6.7
50°	319.2	251.9	200.0	156.2	136.1	109.2	84.0	58.8	10.0	5.0	5.0
51°	255.4	203.3	156.2	124.3	110.9	89.0	68.9	47.1	10.0	5.0	5.0
52°	201.5	157.9	122.7	95.8	89.0	72.3	57.1	38.6	8.4	5.0	5.0
53°	154.6	119.2	92.5	75.6	70.6	58.8	47.1	31.9	6.7	5.0	5.0
54°	114.2	90.7	72.3	58.8	57.1	47.1	38.6	26.9	6.7	5.0	5.0
55°	84.0	70.6	55.4	47.1	45.4	38.6	31.9	21.9	6.7	5.0	5.0
57.5°	43.7	36.9	30.2	26.9	26.9	25.2	21.9	13.5	5.0	3.3	5.0
60°	23.5	20.2	16.8	15.2	18.5	16.8	15.2	8.4	5.0	3.3	5.0
61°	18.5	16.8	13.5	11.7	15.2	13.5	13.5	6.7	5.0	5.0	5.0
62°	15.2	13.5	11.7	10.0	13.5	11.7	11.7	6.7	5.0	5.0	5.0
63°	11.7	10.0	8.4	8.4	11.7	11.7	10.0	5.0	5.0	5.0	5.0
64°	8.4	8.4	6.7	6.7	10.0	10.0	8.4	5.0	5.0	5.0	5.0
65°	6.7	6.7	5.0	5.0	8.4	8.4	8.4	5.0	5.0	5.0	5.0
66°	5.0	5.0	5.0	3.3	6.7	8.4	8.4	3.3	5.0	5.0	5.0



TEST NUMBER: P1191803

CATALOG NUMBER: LDA4A30930D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
72.5°	1.7	1.7	1.7	1.7	5.0	6.7	6.7	3.3	5.0	5.0	5.0
75°	1.7	1.7	1.7	1.7	5.0	6.7	6.7	3.3	5.0	5.0	5.0
77.5°	1.7	1.7	1.7	1.7	5.0	6.7	6.7	3.3	5.0	5.0	6.7
80°	1.7	1.7	1.7	1.7	5.0	6.7	6.7	3.3	5.0	5.0	6.7
82.5°	1.7	1.7	1.7	1.7	5.0	6.7	6.7	3.3	5.0	5.0	6.7
85°	1.7	1.7	1.7	1.7	5.0	6.7	6.7	3.3	5.0	5.0	6.7
87.5°	1.7	1.7	1.7	1.7	5.0	6.7	6.7	3.3	5.0	5.0	6.7
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: P1191803

CATALOG NUMBER: LDA4A30930D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	194.8	194.8	194.8
2.5°	146.1	137.7	136.1
5°	121.0	112.5	110.9
7.5°	110.9	104.2	102.5
10°	114.2	115.9	119.2
12.5°	146.1	161.3	174.8
15°	235.2	295.7	337.7
17.5°	409.9	453.6	482.1
20°	359.6	330.9	332.7
22.5°	201.5	181.5	179.8
25°	122.7	110.9	107.5
26°	102.5	92.5	89.0
27°	84.0	75.6	72.3
28°	68.9	62.1	60.5
29°	58.8	50.4	48.7
30°	48.7	41.9	40.4
31°	40.4	35.2	33.6
32°	35.2	30.2	26.9
33°	28.6	25.2	23.5
34°	25.2	20.2	18.5
35°	20.2	16.8	16.8
36°	18.5	15.2	13.5
37°	15.2	11.7	11.7
38°	13.5	10.0	8.4
39°	11.7	8.4	6.7
40°	10.0	6.7	5.0
42.5°	6.7	3.3	1.7
45°	5.0	1.7	0.0
47.5°	3.3	1.7	0.0
50°	3.3	0.0	0.0
51°	3.3	0.0	0.0
52°	3.3	0.0	0.0
53°	3.3	0.0	0.0
54°	3.3	0.0	0.0
55°	3.3	0.0	0.0
57.5°	3.3	0.0	0.0
60°	3.3	0.0	0.0
61°	3.3	0.0	0.0
62°	3.3	0.0	0.0
63°	3.3	1.7	0.0
64°	3.3	1.7	0.0
65°	3.3	1.7	0.0
66°	3.3	1.7	0.0



TEST NUMBER: P1191803

CATALOG NUMBER: LDA4A30930D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	5.0	1.7	0.0
75°	5.0	1.7	0.0
77.5°	5.0	1.7	0.0
80°	5.0	1.7	0.0
82.5°	5.0	1.7	0.0
85°	5.0	1.7	0.0
87.5°	3.3	1.7	0.0
90°	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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67.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	5.0	3.3
70°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	1.7	1.7

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67.5°	3.3	3.3	3.3	3.3	6.7	6.7	6.7	3.3	5.0	5.0	5.0
70°	1.7	1.7	1.7	3.3	5.0	6.7	6.7	3.3	5.0	5.0	5.0

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67.5°	3.3	1.7	0.0
70°	3.3	1.7	0.0

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(END OF REPORT)