

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: P182688

Luminaire Tested: **LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P182688
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26799)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°
Description: PORTFOLIO 4" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 15° SPOT, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1554.7 lumens
Efficiency: N/A
Efficacy: 69.8 lumens/watt
Spacing Criteria (0/90/45): 2.24 / 0.6 / 1.1
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

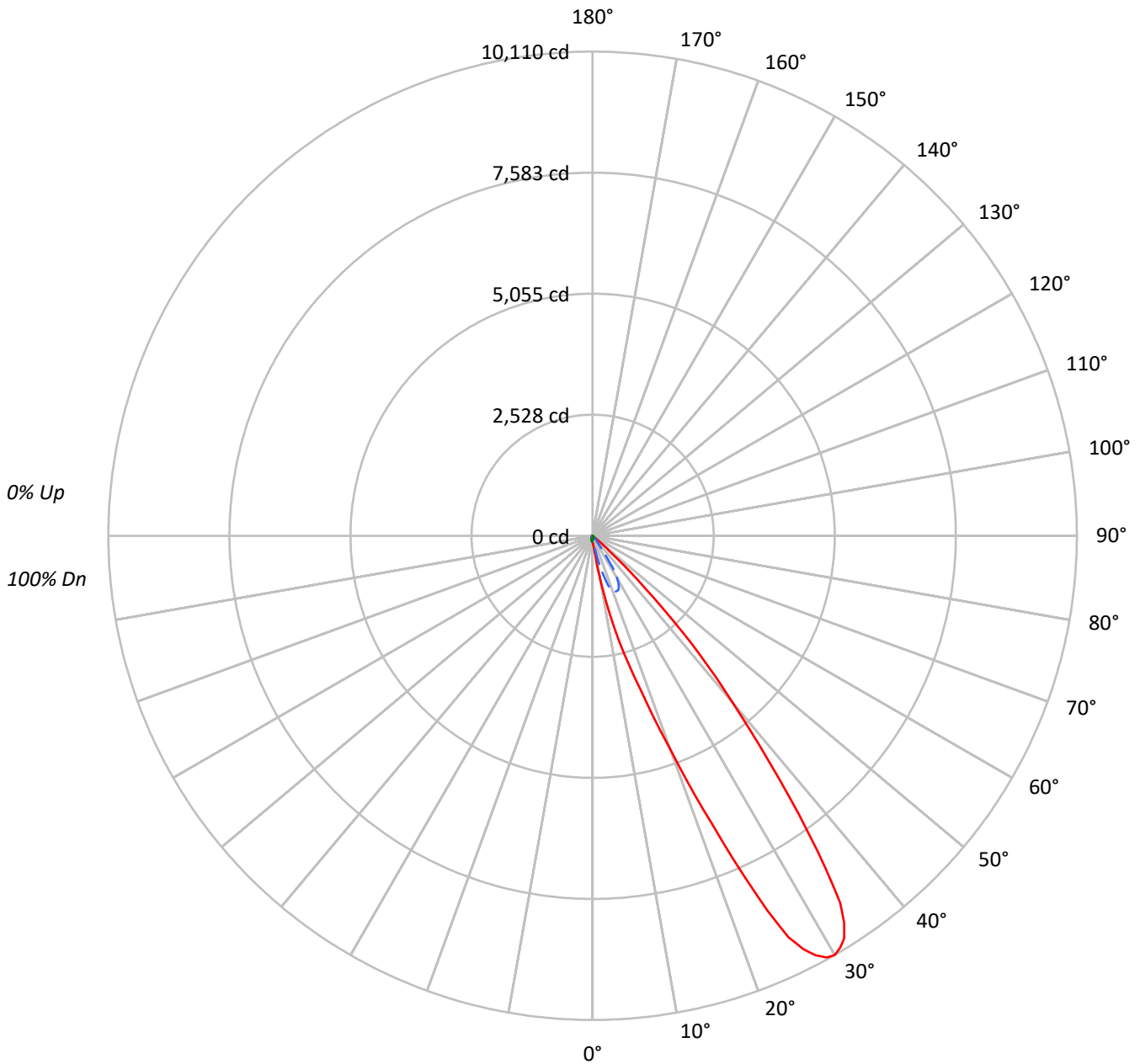
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

Luminous Intensity Polar Plot





TEST NUMBER: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	113	109	107	104	110	107	105	102	103	101	99	99	98	96	96	95	93	91					91			
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	85	83					83			
3	99	92	86	81	97	90	85	80	87	83	79	85	81	78	83	79	77	75					75			
4	93	84	77	72	91	83	76	72	80	75	71	78	74	70	76	72	69	67					67			
5	87	77	70	65	85	76	69	64	74	68	64	72	67	63	70	66	63	61					61			
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55					55			
7	76	65	57	52	74	64	57	52	62	56	52	61	56	52	60	55	51	50					50			
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45					45			
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41					41			
10	62	50	43	39	61	50	43	39	49	43	39	48	42	38	47	42	38	37					37			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	12981	12981	12981
5°	21618	12253	10454
10°	92212	10742	9080
15°	255245	8535	8054
20°	489587	6041	7196
25°	923104	4030	6349
30°	1130959	2696	5571
35°	1004420	1798	4742
40°	572455	1214	3958
45°	208806	986	3302
50°	22983	723	2788
55°	3395	540	2297
60°	775	620	1860
65°	550	734	1284
70°	453	906	1133
75°	599	1198	898
80°	0	1785	893
85°	0	2668	889



TEST NUMBER: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	16.9	1.1
10°-20°	168.5	10.8
20°-30°	553.4	35.6
30°-40°	606.8	39.0
40°-50°	189.5	12.2
50°-60°	10.4	0.7
60°-70°	4.2	0.3
70°-80°	3.2	0.2
80°-90°	2.0	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°	738.7	47.5
0°-40°	1345.5	86.5
0°-60°	1545.4	99.4
0°-90°	1554.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1554.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	134	134	134	134	134	
5°	222	178	126	112	108	41
15°	2545	818	85	76	80	800
25°	8636	1256	38	47	59	3850
35°	8493	247	15	26	40	4965
45°	1524	26	7	15	24	1399
55°	20	5	3	9	14	31
65°	2	2	3	6	6	2
75°	2	2	3	5	2	1
85°	0	2	2	2	1	0
90°	0	0	0	0	0	



TEST NUMBER: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0
2.5°	165.3	166.9	167.7	163.7	164.5	162.9	164.5	161.3	155.7	157.3	152.5
5°	222.3	219.1	218.3	211.9	210.3	207.1	207.1	199.8	189.4	187.8	178.2
7.5°	393.3	376.4	362.0	340.3	319.4	303.4	297.0	271.3	243.2	232.8	210.3
10°	937.4	934.2	898.1	829.9	751.2	694.2	661.3	561.8	435.8	358.8	278.5
12.5°	1706.3	1690.3	1638.9	1513.7	1378.1	1293.0	1226.4	1025.7	838.7	688.6	493.6
15°	2545.0	2480.0	2404.6	2210.4	2020.1	1909.4	1814.7	1573.9	1284.2	1068.3	817.8
17.5°	3440.7	3469.6	3286.6	2952.0	2614.1	2440.7	2280.2	1910.2	1593.2	1368.4	1086.7
20°	4749.0	4688.0	4366.1	3811.5	3313.1	3023.4	2795.4	2261.7	1783.4	1503.3	1236.8
22.5°	6517.1	6322.9	5695.2	4757.0	3966.4	3564.3	3240.9	2521.8	1943.1	1572.3	1260.9
25°	8636.0	8456.2	7294.0	5666.3	4497.0	3976.1	3536.2	2687.1	2007.3	1583.5	1256.1
26°	9327.8	9060.5	7883.9	5989.8	4659.9	4080.4	3609.3	2719.2	2008.9	1574.7	1235.2
27°	9685.8	9476.3	8371.9	6252.2	4771.4	4146.2	3650.2	2727.2	1992.9	1554.6	1203.1
28°	9921.7	9725.9	8680.9	6424.0	4828.4	4171.9	3662.3	2709.6	1956.7	1519.3	1152.5
29°	10067.8	9861.5	8831.8	6501.8	4832.4	4160.7	3639.8	2663.0	1907.8	1476.8	1093.9
30°	10110.3	9887.2	8835.8	6469.7	4773.1	4100.5	3576.4	2587.6	1848.4	1423.0	1028.9
31°	10034.9	9804.5	8690.5	6323.7	4651.1	3983.3	3476.9	2488.1	1774.5	1366.0	928.6
32°	9909.7	9603.9	8386.3	6081.3	4484.1	3842.0	3352.5	2379.7	1695.9	1293.8	787.3
33°	9643.2	9274.0	7920.8	5777.1	4283.5	3679.9	3207.2	2259.3	1621.2	1169.4	585.1
34°	9242.7	8776.4	7350.2	5423.2	4056.3	3477.7	3040.2	2147.8	1543.4	1004.9	400.5
35°	8493.1	8058.9	6720.2	5045.9	3811.5	3281.8	2856.4	2001.7	1437.5	805.8	247.2
36°	7654.4	7334.9	6109.4	4662.3	3561.1	3078.8	2667.0	1894.1	1280.9	593.1	167.7
37°	6797.2	6513.9	5533.1	4285.1	3309.9	2854.0	2474.4	1772.1	1094.7	395.7	134.8
38°	5981.0	5756.2	4985.7	3914.3	3049.1	2618.9	2272.2	1642.1	894.1	254.4	110.8
39°	5231.3	5062.8	4449.6	3555.5	2787.4	2388.5	2077.9	1478.4	682.2	181.4	92.3
40°	4526.7	4407.9	3932.7	3201.6	2527.4	2162.2	1902.2	1280.1	473.5	143.7	74.6
42.5°	3078.8	3049.1	2767.4	2304.3	1877.3	1663.8	1504.1	719.9	182.2	86.7	41.7
45°	1524.1	1545.0	1432.6	1317.9	1228.8	1163.8	947.9	300.2	101.1	47.4	25.7
47.5°	539.3	540.1	464.7	414.1	395.7	394.1	286.5	105.9	53.8	28.9	18.5
50°	152.5	164.5	154.9	158.1	123.6	105.1	85.9	51.4	27.3	18.5	12.0
51°	93.9	101.1	94.7	97.9	85.1	76.2	64.2	38.5	21.7	15.2	11.2
52°	60.2	64.2	61.0	61.8	57.0	49.8	43.3	28.1	17.7	12.8	9.6
53°	40.9	43.3	40.9	40.9	37.7	35.3	30.5	20.9	14.4	10.4	7.2
54°	28.1	28.9	28.9	28.9	26.5	24.9	21.7	16.1	12.0	9.6	6.4
55°	20.1	20.9	20.1	20.1	19.3	17.7	16.1	12.0	9.6	8.0	4.8
57.5°	8.8	8.8	8.8	9.6	8.8	8.8	8.0	7.2	6.4	4.8	3.2
60°	4.0	4.0	4.0	4.0	4.8	4.8	4.8	4.8	4.0	3.2	3.2
61°	3.2	3.2	3.2	3.2	3.2	4.0	4.0	4.0	3.2	3.2	2.4
62°	2.4	2.4	2.4	2.4	3.2	3.2	3.2	3.2	3.2	2.4	2.4
63°	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	2.4	2.4	2.4
64°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
65°	2.4	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4
66°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4



TEST NUMBER: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
72.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4
77.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	1.6	2.4
80°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	1.6	2.4
82.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	1.6	2.4
85°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	1.6	2.4
87.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.6	1.6	2.4
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: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0
2.5°	149.3	148.5	144.5	140.5	141.3	139.7	138.0	135.6	134.0	130.0	130.0
5°	170.2	166.1	157.3	149.3	148.5	145.3	140.5	135.6	131.6	126.0	124.4
7.5°	194.2	183.0	168.5	155.7	153.3	148.5	139.7	133.2	126.0	118.8	116.4
10°	228.7	202.3	177.4	158.1	153.3	146.1	134.8	126.0	118.0	109.2	105.9
12.5°	351.5	249.6	188.6	158.1	149.3	140.5	126.8	116.4	106.7	97.1	93.9
15°	585.9	398.9	239.2	158.1	142.1	131.6	114.8	104.3	93.9	85.1	81.9
17.5°	809.0	567.4	333.1	178.2	142.9	121.2	100.3	89.1	80.3	71.4	69.0
20°	938.2	661.3	394.9	198.2	141.3	109.2	85.9	73.8	65.0	58.6	56.2
22.5°	955.1	665.4	381.2	177.4	118.8	90.7	71.4	60.2	53.0	47.4	45.7
25°	910.1	587.5	305.0	126.0	88.3	73.8	56.2	48.2	42.5	37.7	36.9
26°	875.6	541.0	265.7	104.3	77.9	65.8	50.6	43.3	38.5	34.5	33.7
27°	826.7	491.2	227.1	86.7	69.0	59.4	44.9	39.3	35.3	31.3	31.3
28°	771.3	437.4	183.0	73.0	61.8	53.0	40.9	35.3	31.3	28.9	28.9
29°	704.7	359.6	134.0	63.4	54.6	46.6	36.1	31.3	28.1	26.5	26.5
30°	606.0	260.8	92.3	55.4	47.4	40.9	32.1	28.1	25.7	24.1	24.1
31°	473.5	160.5	72.2	48.2	41.7	36.1	28.9	24.9	23.3	21.7	22.5
32°	322.6	100.3	61.8	41.7	36.9	31.3	25.7	22.5	20.9	20.1	20.1
33°	183.8	83.5	53.8	36.1	31.3	27.3	22.5	20.1	19.3	18.5	18.5
34°	122.0	71.4	46.6	30.5	25.7	23.3	19.3	17.7	16.9	16.9	16.9
35°	102.7	61.8	37.7	25.7	22.5	20.1	16.9	16.1	15.2	15.2	16.1
36°	86.7	51.4	30.5	21.7	19.3	17.7	15.2	14.4	13.6	13.6	14.4
37°	73.0	40.9	25.7	18.5	16.1	15.2	13.6	12.8	12.8	12.8	13.6
38°	59.4	32.9	21.7	16.1	14.4	12.8	12.0	11.2	11.2	12.0	12.8
39°	46.6	26.5	17.7	13.6	12.0	11.2	10.4	10.4	10.4	10.4	11.2
40°	36.9	22.5	15.2	12.0	10.4	10.4	9.6	8.8	9.6	9.6	11.2
42.5°	23.3	16.1	11.2	8.8	8.0	8.0	7.2	7.2	7.2	8.0	8.8
45°	16.9	12.8	8.8	7.2	6.4	5.6	5.6	5.6	6.4	7.2	8.0
47.5°	12.8	8.8	6.4	4.8	4.0	4.0	4.0	4.0	4.8	5.6	6.4
50°	8.8	5.6	4.0	3.2	3.2	3.2	3.2	3.2	4.0	4.8	5.6
51°	7.2	4.8	4.0	3.2	3.2	2.4	2.4	3.2	4.0	4.0	4.8
52°	5.6	4.0	3.2	2.4	2.4	2.4	2.4	3.2	3.2	4.0	4.8
53°	4.8	4.0	3.2	2.4	2.4	2.4	2.4	2.4	3.2	4.0	4.8
54°	4.0	3.2	2.4	2.4	2.4	2.4	2.4	2.4	3.2	4.0	4.8
55°	3.2	3.2	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	4.0
57.5°	3.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	4.0
60°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	4.0
61°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	4.0
62°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	4.0
63°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	4.0
64°	2.4	2.4	2.4	2.4	3.2	3.2	2.4	2.4	3.2	3.2	4.0
65°	2.4	2.4	3.2	3.2	3.2	3.2	2.4	2.4	3.2	3.2	4.0
66°	2.4	3.2	3.2	3.2	3.2	3.2	2.4	2.4	3.2	3.2	4.0



TEST NUMBER: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
72.5°	2.4	3.2	3.2	3.2	3.2	3.2	3.2	2.4	3.2	3.2	3.2
75°	2.4	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
77.5°	2.4	3.2	3.2	3.2	3.2	3.2	3.2	2.4	2.4	3.2	3.2
80°	2.4	3.2	3.2	3.2	3.2	3.2	3.2	2.4	2.4	3.2	3.2
82.5°	2.4	3.2	3.2	3.2	3.2	3.2	3.2	2.4	2.4	2.4	3.2
85°	2.4	2.4	3.2	3.2	3.2	3.2	3.2	2.4	2.4	2.4	2.4
87.5°	2.4	2.4	3.2	3.2	3.2	3.2	2.4	2.4	2.4	2.4	2.4
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: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0
2.5°	128.4	126.0	124.4	123.6	124.4	122.8	120.4	121.2	120.4	119.6	119.6
5°	122.0	118.0	116.4	115.6	115.6	114.8	111.6	112.4	111.6	110.8	110.8
7.5°	113.2	110.0	107.5	106.7	106.7	105.9	102.7	104.3	102.7	101.9	102.7
10°	102.7	99.5	98.7	97.1	97.1	96.3	93.9	94.7	93.9	93.9	93.9
12.5°	91.5	88.3	87.5	86.7	87.5	86.7	84.3	85.9	85.1	85.1	85.9
15°	79.5	77.0	77.0	76.2	77.0	76.2	75.4	76.2	76.2	76.2	77.9
17.5°	67.4	65.8	65.8	65.0	65.8	65.8	65.0	67.4	67.4	69.0	70.6
20°	55.4	53.8	54.6	54.6	56.2	56.2	56.2	58.6	59.4	61.0	63.4
22.5°	45.7	44.9	45.7	45.7	47.4	48.2	48.2	50.6	53.0	54.6	57.0
25°	36.9	36.9	38.5	38.5	39.3	40.9	41.7	44.9	46.6	48.2	50.6
26°	34.5	34.5	35.3	36.1	36.9	38.5	39.3	42.5	44.1	45.7	48.2
27°	31.3	31.3	32.9	33.7	34.5	36.1	37.7	40.1	41.7	44.1	45.7
28°	28.9	28.9	30.5	31.3	32.1	34.5	35.3	37.7	39.3	41.7	44.1
29°	26.5	27.3	28.9	28.9	30.5	32.1	32.9	36.1	37.7	39.3	41.7
30°	24.9	25.7	26.5	27.3	28.1	29.7	31.3	33.7	35.3	36.9	39.3
31°	23.3	24.1	24.9	25.7	26.5	28.1	29.7	32.1	33.7	35.3	37.7
32°	21.7	21.7	23.3	24.1	24.9	26.5	28.1	30.5	32.1	33.7	36.1
33°	20.1	20.9	21.7	22.5	23.3	24.9	26.5	28.1	29.7	32.1	34.5
34°	18.5	19.3	20.9	21.7	22.5	24.1	24.9	26.5	28.1	30.5	32.1
35°	16.9	18.5	19.3	20.1	20.9	22.5	23.3	25.7	26.5	28.9	30.5
36°	16.1	16.9	18.5	19.3	20.1	20.9	21.7	24.1	25.7	27.3	28.9
37°	14.4	16.1	16.9	17.7	18.5	20.1	20.9	22.5	24.1	25.7	27.3
38°	13.6	14.4	16.1	16.9	17.7	18.5	19.3	21.7	22.5	24.1	25.7
39°	12.8	13.6	15.2	16.1	16.1	17.7	18.5	20.1	20.9	22.5	24.9
40°	12.0	12.8	14.4	14.4	15.2	16.9	17.7	19.3	20.1	21.7	23.3
42.5°	10.4	11.2	12.0	12.8	13.6	14.4	15.2	16.9	17.7	18.5	20.1
45°	8.8	9.6	11.2	11.2	12.0	12.8	13.6	14.4	15.2	16.9	17.7
47.5°	7.2	8.8	9.6	10.4	10.4	11.2	12.0	12.8	13.6	14.4	15.2
50°	6.4	7.2	8.0	8.8	8.8	9.6	10.4	11.2	11.2	12.0	13.6
51°	6.4	7.2	8.0	8.0	8.8	9.6	9.6	10.4	11.2	11.2	12.0
52°	5.6	6.4	7.2	8.0	8.0	8.8	9.6	9.6	10.4	11.2	12.0
53°	5.6	6.4	7.2	7.2	8.0	8.8	8.8	9.6	9.6	10.4	11.2
54°	5.6	6.4	7.2	7.2	8.0	8.0	8.8	8.8	9.6	9.6	10.4
55°	4.8	5.6	6.4	7.2	7.2	8.0	8.0	8.8	8.8	9.6	9.6
57.5°	4.8	5.6	6.4	6.4	6.4	7.2	7.2	8.0	8.0	8.0	8.8
60°	4.8	5.6	5.6	6.4	6.4	7.2	7.2	7.2	7.2	8.0	8.0
61°	4.8	4.8	5.6	6.4	6.4	6.4	7.2	7.2	7.2	7.2	8.0
62°	4.8	4.8	5.6	5.6	6.4	6.4	6.4	7.2	7.2	7.2	7.2
63°	4.0	4.8	5.6	5.6	6.4	6.4	6.4	6.4	6.4	7.2	7.2
64°	4.0	4.8	5.6	5.6	5.6	6.4	6.4	6.4	6.4	6.4	6.4
65°	4.0	4.8	5.6	5.6	5.6	6.4	6.4	6.4	6.4	6.4	6.4
66°	4.0	4.8	5.6	5.6	5.6	6.4	6.4	6.4	6.4	6.4	6.4



TEST NUMBER: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
72.5°	4.0	4.0	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
75°	4.0	4.0	4.0	4.8	4.8	4.8	4.8	4.8	4.8	4.0	4.0
77.5°	3.2	3.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.2
80°	3.2	3.2	4.0	4.0	4.0	4.0	4.0	4.0	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	3.2	3.2	3.2	3.2	3.2	3.2	2.4	2.4	1.6
87.5°	2.4	3.2	3.2	3.2	3.2	3.2	2.4	2.4	2.4	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



TEST NUMBER: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0
2.5°	120.4	118.0	117.2	117.2	118.0	117.2	118.0	117.2
5°	110.8	108.4	108.4	107.5	108.4	107.5	108.4	107.5
7.5°	102.7	100.3	100.3	100.3	100.3	100.3	101.1	100.3
10°	94.7	92.3	92.3	91.5	92.3	92.3	93.1	92.3
12.5°	86.7	85.1	85.1	84.3	85.9	85.1	86.7	85.9
15°	79.5	77.9	77.9	78.7	79.5	79.5	80.3	80.3
17.5°	72.2	72.2	72.2	73.0	73.8	74.6	75.4	74.6
20°	65.8	65.8	66.6	67.4	68.2	69.0	69.8	69.8
22.5°	59.4	59.4	60.2	61.8	63.4	64.2	65.0	65.0
25°	53.0	53.8	54.6	55.4	57.8	58.6	59.4	59.4
26°	50.6	51.4	53.0	53.8	55.4	56.2	57.8	57.8
27°	49.0	49.8	50.6	51.4	53.8	54.6	56.2	55.4
28°	46.6	47.4	48.2	49.8	51.4	53.0	53.8	53.8
29°	44.1	45.7	46.6	47.4	49.8	50.6	51.4	51.4
30°	42.5	43.3	44.1	45.7	47.4	49.0	49.8	49.8
31°	40.1	41.7	42.5	43.3	45.7	46.6	48.2	48.2
32°	38.5	39.3	40.1	41.7	43.3	44.9	45.7	45.7
33°	36.1	37.7	38.5	39.3	41.7	43.3	44.1	43.3
34°	34.5	36.1	36.1	37.7	39.3	40.9	41.7	41.7
35°	32.9	33.7	34.5	36.1	37.7	39.3	40.1	40.1
36°	31.3	32.1	32.9	34.5	36.1	37.7	38.5	38.5
37°	29.7	30.5	31.3	32.1	34.5	36.1	36.9	36.9
38°	28.1	28.9	29.7	31.3	32.9	33.7	35.3	35.3
39°	26.5	27.3	28.1	29.7	31.3	32.1	33.7	32.9
40°	24.9	26.5	26.5	28.1	29.7	30.5	32.1	31.3
42.5°	21.7	22.5	23.3	24.1	25.7	27.3	28.1	28.1
45°	19.3	20.1	20.9	21.7	22.5	23.3	24.9	24.1
47.5°	16.1	16.9	17.7	18.5	19.3	20.1	20.9	20.9
50°	14.4	14.4	15.2	15.2	16.9	17.7	18.5	18.5
51°	12.8	13.6	14.4	14.4	16.1	16.1	16.9	16.9
52°	12.8	12.8	13.6	13.6	14.4	15.2	16.1	16.1
53°	12.0	12.0	12.8	12.8	13.6	14.4	15.2	15.2
54°	11.2	11.2	12.0	12.0	12.8	13.6	14.4	14.4
55°	10.4	10.4	11.2	11.2	12.0	12.8	13.6	13.6
57.5°	8.8	9.6	9.6	10.4	10.4	11.2	11.2	12.0
60°	8.0	8.8	8.8	8.8	9.6	9.6	9.6	9.6
61°	8.0	8.0	8.0	8.8	8.8	8.0	8.8	8.0
62°	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
63°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
64°	7.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4
65°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	5.6
66°	6.4	6.4	5.6	6.4	5.6	5.6	5.6	5.6



TEST NUMBER: P182688

CATALOG NUMBER: LDSQA4A13835D010TE LAR15SP 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
72.5°	4.0	4.0	4.0	4.0	4.0	3.2	3.2	3.2
75°	4.0	4.0	4.0	3.2	3.2	3.2	3.2	2.4
77.5°	3.2	3.2	3.2	3.2	2.4	2.4	2.4	2.4
80°	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6
82.5°	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6
85°	1.6	1.6	1.6	1.6	1.6	0.8	0.8	0.8
87.5°	0.8	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



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - - 90°-270°







67.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4
70°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4





67.5°	2.4	3.2	3.2	3.2	3.2	3.2	3.2	2.4	3.2	3.2	4.0
70°	2.4	3.2	3.2	3.2	3.2	3.2	3.2	2.4	3.2	3.2	3.2





67.5°	4.0	4.8	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
70°	4.0	4.8	4.8	4.8	5.6	5.6	5.6	5.6	5.6	5.6	5.6





67.5°	5.6	5.6	5.6	5.6	5.6	4.8	4.8	4.8
70°	4.8	4.8	4.8	4.8	4.8	4.0	4.0	4.0



(END OF REPORT)