

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: P136989

Luminaire Tested: **LDSQ6A15D010TE ESQ6A15830 6LSQLWW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P136989  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23675)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQ6A15D010TE ESQ6A15830 6LSQLWW1LI  
Description: PORTFOLIO LED SQUARE 6 INCH 50 DEGREE CUTOFF RECESSED SINGLE WALL  
WASH LUMINAIRE  
SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER  
Light Source: (1) HIGH LUMEN LED 3000K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1196.9 lumens  
Efficiency: N/A  
Efficacy: 53.0 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 1.06 / 1.13  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

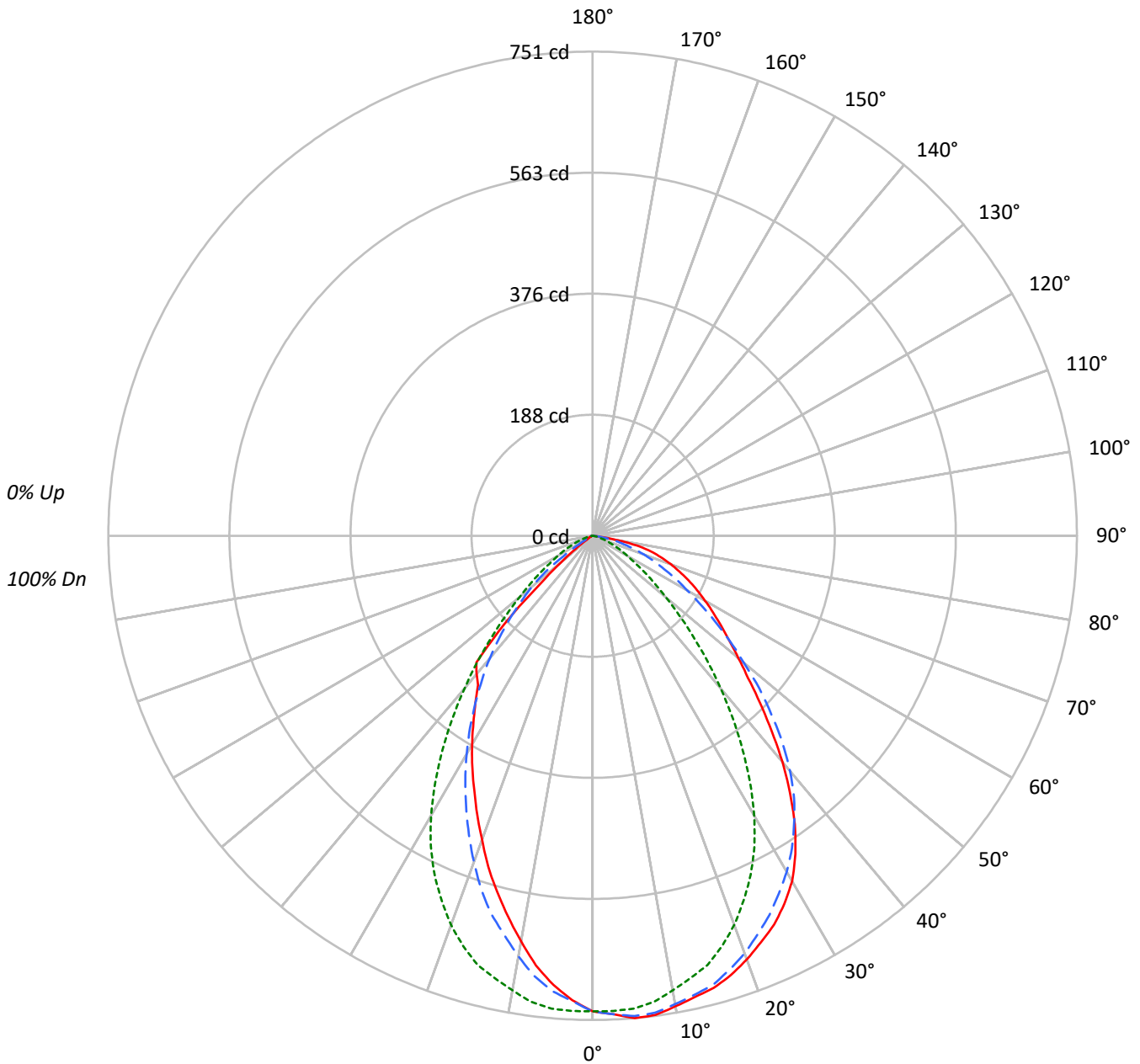
Input Watts (W): 22.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P136989

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89																			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79																			
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	71	70																			
4	89	80	72	67	87	78	71	66	76	70	65	74	69	65	72	67	64	62																			
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55																			
6	78	66	59	53	76	65	58	53	64	57	53	62	57	52	61	56	52	50																			
7	73	61	53	48	71	60	53	48	59	52	48	58	52	47	56	51	47	45																			
8	68	56	49	44	67	56	49	44	55	48	43	53	47	43	52	47	43	41																			
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	43	39	38																			
10	61	49	42	37	59	48	41	37	47	41	37	46	41	37	46	40	36	35																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	31762	31762	31762
5°	32463	31814	30220
10°	32401	31299	27928
15°	32361	30716	25483
20°	32037	29425	22969
25°	31620	27559	20632
30°	30760	24923	18589
35°	28730	21329	16657
40°	25725	17339	15737
45°	22359	13371	11740
50°	19767	9880	4267
55°	18248	7296	1006
60°	17326	5339	577
65°	16739	3933	346
70°	16252	2744	214
75°	15621	1680	283
80°	9571	843	422
85°	0	0	840



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CATALOG NUMBER: LDSQ6A15D010TE ESQ6A15830 6LSQLWW1LI

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.9	5.8
10°-20°	187.2	15.6
20°-30°	257.9	21.6
30°-40°	265.1	22.1
40°-50°	207.0	17.3
50°-60°	116.5	9.7
60°-70°	63.4	5.3
70°-80°	28.2	2.4
80°-90°	2.7	0.2
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°	514.0	42.9
0°-40°	779.1	65.1
0°-60°	1102.6	92.1
0°-90°	1196.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1196.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	738	738	738	738	738	
5°	751	748	736	709	699	71
15°	726	721	689	607	572	204
25°	666	649	580	464	434	306
35°	547	545	406	317	317	339
45°	367	392	220	181	193	285
55°	243	231	97	55	13	219
65°	164	122	39	5	3	163
75°	94	49	10	2	2	95
85°	0	2	0	2	2	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7
2.5°	742.8	747.8	746.1	749.5	751.1	751.1	751.1	744.4	746.1	742.8	742.8
5°	751.1	754.5	752.8	756.2	757.9	757.9	757.9	751.1	752.8	747.8	747.8
7.5°	749.5	752.8	751.1	754.5	757.9	757.9	756.2	751.1	751.1	746.1	746.1
10°	741.1	744.4	744.4	746.1	749.5	749.5	747.8	742.8	742.8	737.7	737.7
12.5°	732.7	737.7	736.1	739.4	741.1	741.1	741.1	734.4	734.4	729.3	729.3
15°	726.0	731.0	729.3	732.7	734.4	734.4	732.7	727.7	726.0	721.0	721.0
17.5°	714.3	719.3	715.9	719.3	722.6	721.0	719.3	714.3	712.6	705.9	705.9
20°	699.2	702.5	700.8	702.5	705.9	705.9	704.2	697.5	695.8	689.1	687.4
22.5°	682.4	685.8	684.1	685.8	689.1	687.4	685.8	679.0	675.7	669.0	667.3
25°	665.6	669.0	667.3	669.0	672.3	670.7	667.3	660.6	657.3	648.9	647.2
27.5°	643.8	647.2	645.5	648.9	652.2	650.5	647.2	640.5	635.5	625.4	623.7
30°	618.7	622.0	620.4	622.0	625.4	625.4	622.0	617.0	612.0	601.9	596.9
32.5°	585.2	590.2	588.5	593.5	596.9	596.9	596.9	590.2	585.2	575.1	568.4
35°	546.6	551.6	549.9	555.0	560.0	563.4	565.0	561.7	558.3	544.9	536.5
37.5°	503.0	508.0	506.4	513.1	519.8	524.8	528.1	526.5	524.8	513.1	503.0
40°	457.7	461.1	461.1	466.1	476.2	482.9	487.9	487.9	486.2	476.2	467.8
42.5°	410.8	415.8	415.8	422.5	430.9	439.3	442.6	446.0	447.7	435.9	427.5
45°	367.2	370.5	370.5	375.6	385.6	394.0	399.0	402.4	404.1	392.3	384.0
47.5°	326.9	330.3	332.0	338.7	343.7	350.4	355.5	357.1	358.8	350.4	340.4
50°	295.1	296.8	298.4	303.5	306.8	311.9	315.2	316.9	316.9	305.2	296.8
52.5°	266.6	268.3	268.3	273.3	276.6	280.0	280.0	280.0	278.3	268.3	254.9
55°	243.1	244.8	244.8	248.1	249.8	251.5	249.8	246.5	243.1	231.4	218.0
57.5°	221.3	223.0	223.0	224.7	224.7	224.7	221.3	218.0	211.3	197.8	186.1
60°	201.2	202.9	202.9	204.6	204.6	202.9	197.8	191.1	182.8	169.3	157.6
62.5°	182.8	184.4	184.4	184.4	184.4	181.1	174.4	166.0	155.9	145.9	134.1
65°	164.3	166.0	164.3	166.0	164.3	159.3	150.9	142.5	132.5	122.4	112.3
67.5°	145.9	147.5	145.9	145.9	142.5	137.5	129.1	120.7	112.3	102.3	92.2
70°	129.1	129.1	127.4	125.7	120.7	115.7	107.3	100.6	92.2	83.8	75.4
72.5°	110.7	112.3	109.0	105.6	100.6	93.9	87.2	80.5	73.8	65.4	58.7
75°	93.9	93.9	88.9	85.5	80.5	75.4	68.7	62.0	55.3	48.6	43.6
77.5°	70.4	70.4	65.4	63.7	58.7	55.3	48.6	43.6	38.6	35.2	30.2
80°	38.6	38.6	36.9	35.2	33.5	31.9	28.5	26.8	23.5	20.1	16.8
82.5°	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	8.4	6.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P136989

CATALOG NUMBER: LDSQ6A15D010TE ESQ6A15830 6LSQLWW1LI

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7
2.5°	741.1	744.4	739.4	744.4	742.8	732.7	742.8	737.7	734.4	737.7	732.7
5°	746.1	747.8	742.8	747.8	744.4	734.4	741.1	736.1	732.7	734.4	727.7
7.5°	744.4	746.1	741.1	744.4	739.4	729.3	736.1	729.3	724.3	724.3	715.9
10°	736.1	737.7	731.0	734.4	729.3	717.6	724.3	715.9	710.9	707.6	699.2
12.5°	727.7	727.7	722.6	724.3	719.3	707.6	710.9	702.5	695.8	692.5	680.7
15°	717.6	717.6	712.6	714.3	707.6	695.8	699.2	689.1	680.7	675.7	662.3
17.5°	702.5	702.5	695.8	697.5	689.1	677.4	680.7	667.3	658.9	650.5	637.1
20°	682.4	680.7	674.0	674.0	665.6	652.2	655.6	642.2	630.4	622.0	607.0
22.5°	662.3	658.9	652.2	650.5	640.5	625.4	627.1	612.0	600.2	590.2	573.4
25°	638.8	633.8	625.4	622.0	612.0	596.9	596.9	580.1	568.4	555.0	538.2
27.5°	615.3	608.6	596.9	591.9	578.4	561.7	560.0	543.2	529.8	516.4	498.0
30°	586.8	578.4	563.4	556.7	541.6	523.1	518.1	501.3	486.2	471.1	456.1
32.5°	555.0	544.9	528.1	518.1	499.6	479.5	474.5	454.4	441.0	425.9	409.1
35°	521.4	508.0	489.6	476.2	456.1	435.9	425.9	405.8	392.3	377.2	363.8
37.5°	486.2	469.5	447.7	432.6	409.1	390.7	377.2	357.1	343.7	330.3	318.6
40°	449.3	429.2	405.8	385.6	362.2	343.7	328.6	308.5	296.8	285.0	275.0
42.5°	409.1	387.3	362.2	340.4	315.2	296.8	280.0	263.2	251.5	239.8	231.4
45°	365.5	343.7	316.9	295.1	269.9	251.5	236.4	219.6	209.6	199.5	192.8
47.5°	320.2	300.1	273.3	251.5	228.0	211.3	196.2	181.1	171.0	164.3	159.3
50°	276.6	256.5	233.1	211.3	189.5	174.4	161.0	147.5	139.2	132.5	127.4
52.5°	236.4	218.0	196.2	177.7	157.6	142.5	130.8	120.7	112.3	105.6	100.6
55°	201.2	184.4	164.3	147.5	130.8	117.4	107.3	97.2	90.5	82.2	77.1
57.5°	169.3	154.3	137.5	122.4	105.6	95.6	87.2	77.1	70.4	65.4	58.7
60°	144.2	130.8	114.0	100.6	87.2	78.8	70.4	62.0	57.0	50.3	45.3
62.5°	120.7	109.0	95.6	82.2	70.4	63.7	57.0	50.3	43.6	38.6	33.5
65°	100.6	88.9	77.1	65.4	57.0	50.3	45.3	38.6	33.5	28.5	23.5
67.5°	82.2	72.1	60.4	52.0	45.3	40.2	35.2	28.5	25.1	20.1	16.8
70°	65.4	57.0	46.9	40.2	35.2	30.2	25.1	21.8	16.8	13.4	10.1
72.5°	50.3	43.6	35.2	30.2	26.8	21.8	18.4	15.1	11.7	10.1	6.7
75°	36.9	30.2	25.1	21.8	18.4	15.1	11.7	10.1	8.4	5.0	3.4
77.5°	25.1	20.1	16.8	13.4	11.7	10.1	6.7	6.7	5.0	3.4	1.7
80°	15.1	10.1	8.4	6.7	5.0	5.0	3.4	3.4	1.7	1.7	0.0
82.5°	5.0	3.4	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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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CATALOG NUMBER: LDSQ6A15D010TE ESQ6A15830 6LSQLWW1LI

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7
2.5°	726.0	729.3	726.0	729.3	729.3	722.6	724.3	724.3	719.3	719.3	721.0
5°	719.3	719.3	715.9	717.6	717.6	709.2	709.2	709.2	702.5	700.8	700.8
7.5°	707.6	705.9	699.2	699.2	697.5	689.1	685.8	684.1	677.4	675.7	674.0
10°	689.1	685.8	677.4	675.7	672.3	662.3	657.3	653.9	647.2	643.8	643.8
12.5°	669.0	665.6	655.6	652.2	645.5	633.8	628.7	625.4	615.3	610.3	610.3
15°	648.9	643.8	632.1	625.4	618.7	607.0	600.2	595.2	585.2	580.1	578.4
17.5°	622.0	615.3	603.6	595.2	586.8	575.1	568.4	560.0	551.6	546.6	543.2
20°	590.2	581.8	566.7	560.0	551.6	538.2	529.8	524.8	514.7	509.7	508.0
22.5°	556.7	546.6	531.5	523.1	513.1	501.3	496.3	487.9	479.5	476.2	472.8
25°	519.8	511.4	494.6	486.2	476.2	464.4	459.4	452.7	446.0	444.3	439.3
27.5°	479.5	471.1	457.7	447.7	439.3	427.5	422.5	417.5	410.8	409.1	407.4
30°	437.6	429.2	415.8	407.4	399.0	390.7	385.6	380.6	375.6	375.6	375.6
32.5°	394.0	385.6	375.6	367.2	360.5	353.8	350.4	345.4	342.0	343.7	345.4
35°	348.7	343.7	333.7	328.6	323.6	316.9	315.2	311.9	308.5	310.2	310.2
37.5°	305.2	301.8	295.1	290.1	286.7	281.7	281.7	278.3	275.0	278.3	278.3
40°	263.2	259.9	254.9	253.2	249.8	248.1	246.5	246.5	244.8	248.1	254.9
42.5°	223.0	221.3	218.0	216.3	214.6	212.9	214.6	214.6	218.0	229.7	243.1
45°	186.1	186.1	182.8	182.8	181.1	181.1	182.8	187.8	197.8	211.3	212.9
47.5°	152.6	152.6	149.2	149.2	149.2	149.2	155.9	164.3	162.6	155.9	140.8
50°	122.4	120.7	119.0	119.0	119.0	122.4	125.7	115.7	102.3	87.2	78.8
52.5°	95.6	92.2	90.5	90.5	92.2	92.2	82.2	67.1	57.0	52.0	45.3
55°	72.1	68.7	65.4	65.4	63.7	55.3	43.6	38.6	30.2	26.8	23.5
57.5°	52.0	50.3	45.3	41.9	35.2	28.5	23.5	16.8	15.1	11.7	10.1
60°	38.6	35.2	30.2	25.1	20.1	15.1	10.1	8.4	8.4	6.7	6.7
62.5°	28.5	25.1	20.1	15.1	10.1	6.7	6.7	6.7	5.0	5.0	5.0
65°	20.1	16.8	11.7	8.4	5.0	5.0	5.0	5.0	5.0	3.4	3.4
67.5°	13.4	10.1	5.0	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
70°	8.4	5.0	1.7	3.4	1.7	1.7	3.4	3.4	3.4	3.4	1.7
72.5°	3.4	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
75°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7
85°	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7
87.5°	0.0	0.0	0.0	0.0	0.0	1.7	1.7	0.0	0.0	0.0	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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CATALOG NUMBER: LDSQ6A15D010TE ESQ6A15830 6LSQLWW1LI

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	737.7	737.7	737.7	737.7
2.5°	717.6	717.6	719.3	721.0
5°	697.5	699.2	699.2	699.2
7.5°	670.7	670.7	672.3	672.3
10°	637.1	637.1	638.8	638.8
12.5°	605.3	603.6	605.3	605.3
15°	573.4	571.7	571.7	571.7
17.5°	538.2	536.5	536.5	538.2
20°	503.0	501.3	501.3	501.3
22.5°	467.8	467.8	467.8	467.8
25°	435.9	434.3	434.3	434.3
27.5°	404.1	404.1	404.1	404.1
30°	372.2	372.2	373.9	373.9
32.5°	343.7	343.7	343.7	343.7
35°	310.2	313.5	315.2	316.9
37.5°	280.0	285.0	290.1	291.7
40°	261.6	271.6	278.3	280.0
42.5°	253.2	261.6	264.9	266.6
45°	207.9	199.5	194.5	192.8
47.5°	127.4	115.7	109.0	107.3
50°	73.8	68.7	65.4	63.7
52.5°	40.2	35.2	33.5	33.5
55°	20.1	16.8	15.1	13.4
57.5°	8.4	8.4	8.4	8.4
60°	6.7	6.7	6.7	6.7
62.5°	5.0	5.0	5.0	5.0
65°	3.4	3.4	3.4	3.4
67.5°	3.4	3.4	3.4	3.4
70°	1.7	1.7	1.7	1.7
72.5°	1.7	1.7	1.7	1.7
75°	1.7	1.7	1.7	1.7
77.5°	1.7	1.7	1.7	1.7
80°	1.7	1.7	1.7	1.7
82.5°	1.7	1.7	0.0	1.7
85°	1.7	1.7	1.7	1.7
87.5°	0.0	1.7	0.0	1.7
90°	0.0	0.0	0.0	0.0



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















(END OF REPORT)