

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P#

Luminaire Tested: **LD4C15D010 EX4C159030 4LBSQLWWLI**

Issue Date: 2/18/2022

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P219529)
Test Lab: INNOVATION CENTER
Issue Date: 2/18/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C15D010 EX4C159030 4LBSQLWWLI
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

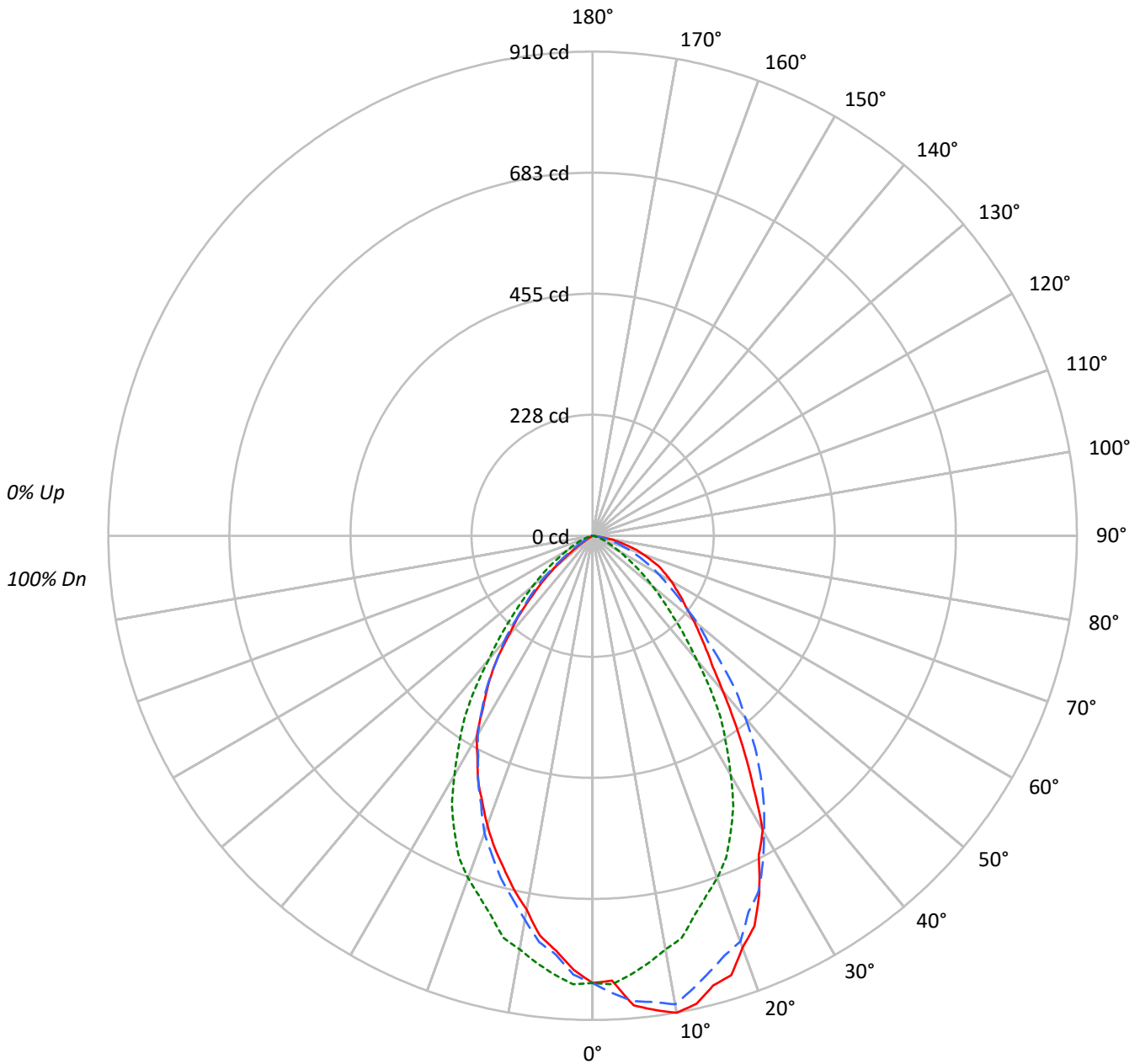
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1205.0 lumens
Efficiency: N/A
Efficacy: 76.3 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 15.8
Input Voltage (V):
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: P#
CATALOG NUMBER: LD4C15D010 EX4C159030 4LBSQLWWLI

Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159030 4LBSQLWWLI

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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80																			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72																			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64																			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58																			
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53																			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48																			
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44																			
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41																			
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	81109	81109	81109
5°	85816	80159	75859
10°	89179	77334	69917
15°	87396	73801	64541
20°	84558	70275	59411
25°	78879	65347	54190
30°	71206	57836	48522
35°	58648	49508	40249
40°	47864	38215	30973
45°	41128	29024	22283
50°	37227	22096	14080
55°	34250	15931	5080
60°	32883	10884	772
65°	31758	7374	228
70°	28437	5106	282
75°	23300	2647	0
80°	14558	1111	0
85°	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159030 4LBSQLWWLI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.8	6.5
10°-20°	212.2	17.6
20°-30°	283.4	23.5
30°-40°	269.0	22.3
40°-50°	185.9	15.4
50°-60°	102.7	8.5
60°-70°	51.0	4.2
70°-80°	20.1	1.7
80°-90°	1.9	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°	574.3	47.7
0°-40°	843.3	70.0
0°-60°	1132.0	93.9
0°-90°	1205.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1205.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	841	841	841	841	841	
5°	886	878	828	790	783	85
15°	875	849	739	666	646	247
25°	741	738	614	509	509	338
35°	498	550	420	346	342	312
45°	301	346	213	174	163	235
55°	204	192	95	48	30	183
65°	139	101	32	1	1	135
75°	62	38	7	0	0	67
85°	0	1	0	0	0	6
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159030 4LBSQLWWLI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	836.6	859.8	861.8	859.8	862.8	861.8	866.9	861.8	867.9	858.8	860.8
5°	886.0	876.9	896.1	886.0	886.0	885.0	882.0	881.0	885.0	871.9	878.0
7.5°	899.1	912.2	929.4	908.2	909.2	909.2	903.1	901.1	901.1	876.9	884.0
10°	910.2	902.1	911.2	903.1	910.2	909.2	913.2	900.1	909.2	895.1	894.1
12.5°	901.1	898.1	910.2	897.1	893.1	894.1	889.1	886.0	889.1	872.9	871.9
15°	874.9	878.0	896.1	882.0	880.0	878.0	871.9	861.8	869.9	847.7	848.7
17.5°	865.9	860.8	863.9	851.7	854.8	852.8	851.7	842.7	840.6	826.5	826.5
20°	823.5	834.6	834.6	826.5	826.5	825.6	812.4	820.5	811.4	807.4	811.4
22.5°	794.3	795.3	795.3	788.2	789.3	785.2	778.2	773.1	778.2	773.1	765.1
25°	740.9	742.9	755.0	741.9	739.9	743.9	737.8	734.8	733.8	721.7	737.8
27.5°	676.4	696.5	695.5	690.5	696.5	688.4	685.4	686.4	689.5	688.4	692.5
30°	639.1	642.1	645.1	641.1	642.1	639.1	639.1	640.1	648.1	645.1	644.1
32.5°	563.5	573.5	581.6	581.6	582.6	585.6	584.6	605.8	610.8	600.8	598.8
35°	497.9	505.0	512.0	513.1	526.2	527.2	528.2	534.2	548.3	551.4	550.3
37.5°	435.5	442.5	444.5	453.6	460.7	467.7	475.8	483.8	495.9	506.0	501.0
40°	380.0	383.0	388.1	392.1	406.2	406.2	410.2	426.4	439.5	447.5	446.5
42.5°	333.7	334.6	338.7	345.7	358.9	355.8	358.9	369.9	389.1	390.1	401.2
45°	301.4	300.4	303.4	304.4	312.5	316.5	318.5	326.6	342.7	344.7	345.7
47.5°	272.2	271.1	276.2	278.2	281.2	285.2	285.2	286.3	292.3	297.4	293.3
50°	248.0	248.0	248.0	250.0	255.0	254.0	255.0	259.1	262.1	260.0	259.1
52.5°	221.7	225.8	228.8	229.8	230.8	230.8	231.8	229.8	228.8	225.8	219.7
55°	203.6	207.6	207.6	207.6	207.6	211.7	206.7	207.6	207.6	199.6	191.5
57.5°	185.5	189.5	192.5	188.5	192.5	188.5	186.5	185.5	183.4	175.4	163.3
60°	170.4	172.4	171.3	170.4	172.4	169.3	167.3	163.3	161.3	150.2	142.1
62.5°	153.2	154.2	155.2	153.2	151.2	150.2	146.2	140.1	136.1	127.0	119.9
65°	139.1	136.1	135.1	134.1	132.1	129.0	126.0	118.9	115.9	107.8	100.8
67.5°	117.9	116.9	118.9	115.9	110.9	110.9	107.8	101.8	94.7	89.7	82.7
70°	100.8	99.8	97.8	94.7	93.8	89.7	89.7	82.7	80.6	71.6	65.5
72.5°	82.7	82.7	79.6	76.6	73.6	71.6	70.6	65.5	62.5	57.5	52.4
75°	62.5	62.5	61.5	58.4	56.4	54.4	53.4	49.4	46.4	41.3	38.3
77.5°	44.3	44.3	40.3	38.3	39.3	37.3	35.3	34.3	33.3	30.2	26.2
80°	26.2	25.2	22.2	23.2	22.2	22.2	21.2	20.1	18.1	16.1	14.1
82.5°	7.1	8.1	8.1	8.1	9.1	7.1	7.1	7.1	8.1	8.1	5.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
87.5°	1.0	2.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	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: P#

CATALOG NUMBER: LD4C15D010 EX4C159030 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	850.7	849.7	850.7	843.7	859.8	847.7	845.7	843.7	850.7	843.7	833.6
5°	868.9	858.8	855.8	852.8	861.8	847.7	844.7	845.7	840.6	827.6	828.6
7.5°	874.9	865.9	856.8	837.6	845.7	842.7	834.6	828.6	820.5	809.4	807.4
10°	876.9	866.9	853.7	847.7	835.6	831.6	828.6	818.5	808.4	789.3	784.2
12.5°	870.9	858.8	842.7	837.6	828.6	815.4	808.4	798.3	789.3	774.1	763.0
15°	844.7	834.6	829.6	812.4	808.4	800.3	786.2	772.1	759.0	738.8	732.8
17.5°	814.5	810.4	805.4	792.3	791.3	783.2	770.1	758.0	740.9	709.6	699.5
20°	783.2	783.2	767.1	762.0	772.1	756.0	745.9	734.8	699.5	684.4	666.3
22.5°	760.0	748.9	739.9	731.8	732.8	722.7	708.6	686.4	673.3	655.2	634.0
25°	714.7	718.7	698.5	695.5	698.5	675.3	668.3	650.1	631.0	613.8	597.7
27.5°	686.4	675.3	662.3	651.2	651.2	642.1	621.9	617.9	588.6	572.5	552.4
30°	644.1	636.0	624.9	608.8	606.8	599.7	583.6	573.5	543.3	519.1	508.0
32.5°	590.7	587.7	578.6	560.5	554.4	546.3	526.2	509.0	494.9	467.7	454.6
35°	552.4	541.3	522.1	507.0	502.0	487.9	471.7	459.6	444.5	420.3	403.2
37.5°	494.9	483.8	465.7	447.5	447.5	433.4	411.3	399.2	378.0	363.9	349.8
40°	444.5	430.4	412.3	391.1	388.1	367.9	358.9	338.7	325.6	303.4	301.4
42.5°	388.1	375.0	358.9	342.7	330.6	320.5	297.4	282.2	268.1	257.0	254.0
45°	336.7	319.5	305.4	285.2	273.2	261.1	245.9	235.9	224.8	212.7	205.6
47.5°	292.3	278.2	258.0	239.9	227.8	221.7	204.6	193.5	184.5	176.4	171.3
50°	247.0	229.8	218.7	198.6	196.5	182.4	168.3	159.3	154.2	147.2	140.1
52.5°	212.7	196.5	181.4	166.3	158.2	153.2	140.1	131.0	124.0	118.9	114.9
55°	179.4	165.3	153.2	138.1	133.0	126.0	110.9	108.9	101.8	94.7	89.7
57.5°	154.2	141.1	127.0	116.9	107.8	102.8	90.7	82.7	78.6	72.6	67.5
60°	131.0	116.9	105.8	93.8	89.7	82.7	73.6	66.5	61.5	56.4	51.4
62.5°	109.9	97.8	85.7	75.6	69.5	65.5	58.4	52.4	47.4	43.4	39.3
65°	90.7	79.6	69.5	59.5	56.4	51.4	46.4	41.3	37.3	32.3	28.2
67.5°	74.6	64.5	54.4	47.4	44.3	42.3	36.3	31.2	28.2	25.2	21.2
70°	58.4	51.4	43.4	37.3	34.3	31.2	27.2	24.2	20.1	18.1	15.1
72.5°	45.4	39.3	32.3	27.2	25.2	23.2	19.2	16.1	14.1	12.1	10.1
75°	32.3	27.2	23.2	18.1	17.1	16.1	13.1	11.1	9.1	7.1	6.0
77.5°	22.2	18.1	14.1	12.1	11.1	9.1	8.1	6.0	5.1	4.0	3.0
80°	12.1	9.1	7.1	6.0	5.1	4.0	4.0	3.0	2.0	2.0	1.0
82.5°	4.0	3.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0
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°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	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: P#

CATALOG NUMBER: LD4C15D010 EX4C159030 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	839.6	828.6	831.6	831.6	829.6	829.6	827.6	824.5	825.6	819.5	806.4
5°	830.6	816.5	814.5	816.5	808.4	806.4	802.4	808.4	790.2	797.3	789.3
7.5°	804.4	791.3	788.2	795.3	785.2	779.1	778.2	786.2	770.1	762.0	753.0
10°	775.1	770.1	761.0	756.0	753.0	754.0	745.9	735.8	732.8	730.8	722.7
12.5°	748.9	737.8	729.8	723.7	721.7	721.7	708.6	706.6	697.5	695.5	683.4
15°	717.7	704.6	699.5	691.5	684.4	688.4	673.3	669.3	666.3	653.2	655.2
17.5°	690.5	676.4	664.3	659.2	653.2	647.1	633.0	636.0	629.0	629.0	610.8
20°	655.2	640.1	631.0	620.9	620.9	612.9	602.8	603.8	594.7	585.6	569.5
22.5°	617.9	601.8	590.7	586.6	576.6	574.5	562.5	559.4	547.3	548.3	534.2
25°	578.6	562.5	547.3	548.3	539.3	535.3	528.2	514.1	509.0	503.0	499.0
27.5°	532.2	521.1	508.0	507.0	489.9	490.9	481.8	477.8	465.7	468.7	459.6
30°	489.9	473.8	461.6	458.6	451.6	449.6	435.5	429.4	431.4	423.3	418.3
32.5°	446.5	422.4	417.3	411.3	407.2	402.2	392.1	396.1	387.0	389.1	381.0
35°	389.1	379.0	365.9	365.9	361.9	357.8	350.8	354.8	345.7	341.7	333.7
37.5°	340.7	331.6	318.5	322.6	315.5	309.4	303.4	304.4	296.3	295.3	287.3
40°	288.3	283.2	274.2	274.2	269.1	269.1	266.1	263.1	258.0	252.0	242.9
42.5°	238.9	234.9	230.8	231.8	224.8	230.8	222.8	227.8	211.7	210.7	204.6
45°	202.6	193.5	194.5	190.5	186.5	188.5	181.4	183.4	174.4	172.4	166.3
47.5°	164.3	161.3	155.2	153.2	153.2	150.2	147.2	146.2	142.1	137.1	129.0
50°	135.1	124.0	121.9	118.9	116.9	116.9	112.9	106.9	107.8	102.8	94.7
52.5°	105.8	96.8	92.7	91.7	87.7	85.7	80.6	76.6	73.6	71.6	66.5
55°	81.6	73.6	68.6	68.6	62.5	62.5	55.4	52.4	48.4	44.3	41.3
57.5°	61.5	57.5	52.4	48.4	46.4	41.3	37.3	32.3	29.2	23.2	19.2
60°	46.4	42.3	37.3	34.3	32.3	27.2	22.2	18.1	11.1	9.1	8.1
62.5°	34.3	30.2	25.2	23.2	21.2	17.1	12.1	6.0	3.0	3.0	3.0
65°	25.2	20.1	16.1	14.1	12.1	9.1	4.0	2.0	1.0	1.0	1.0
67.5°	17.1	13.1	9.1	8.1	6.0	3.0	1.0	1.0	1.0	1.0	1.0
70°	11.1	8.1	4.0	3.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	7.1	4.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	4.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	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	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: P#

CATALOG NUMBER: LD4C15D010 EX4C159030 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	820.5	813.4	817.5	808.4	812.4	819.5	814.5	816.5
5°	792.3	788.2	783.2	770.1	780.2	788.2	784.2	783.2
7.5°	762.0	747.9	755.0	751.0	748.9	757.0	747.9	758.0
10°	730.8	720.7	719.7	712.6	712.6	718.7	719.7	713.6
12.5°	684.4	679.4	679.4	678.4	677.3	683.4	684.4	681.4
15°	651.2	649.1	644.1	643.1	637.1	646.1	647.1	646.1
17.5°	610.8	611.8	606.8	606.8	610.8	613.8	605.8	613.8
20°	583.6	578.6	576.6	567.5	572.5	577.6	577.6	578.6
22.5°	544.3	536.2	539.3	534.2	531.2	538.3	538.3	541.3
25°	500.0	500.0	502.0	499.0	501.0	505.0	502.0	509.0
27.5°	457.6	461.6	461.6	457.6	459.6	471.7	476.8	468.7
30°	418.3	419.3	422.4	420.3	426.4	430.4	429.4	435.5
32.5°	374.0	379.0	381.0	378.0	380.0	389.1	384.0	383.0
35°	339.7	330.6	329.6	330.6	334.6	336.7	334.6	341.7
37.5°	290.3	287.3	283.2	284.3	287.3	291.3	293.3	298.4
40°	242.9	238.9	238.9	237.9	234.9	245.9	245.9	245.9
42.5°	201.6	200.6	195.6	195.6	199.6	202.6	200.6	207.6
45°	165.3	161.3	158.2	158.2	161.3	161.3	164.3	163.3
47.5°	130.0	126.0	127.0	124.0	127.0	131.0	126.0	127.0
50°	97.8	97.8	95.8	97.8	96.8	97.8	95.8	93.8
52.5°	66.5	75.6	76.6	72.6	63.5	55.4	50.4	54.4
55°	38.3	34.3	34.3	33.3	31.2	30.2	27.2	30.2
57.5°	19.2	17.1	17.1	17.1	16.1	15.1	13.1	13.1
60°	8.1	7.1	7.1	6.0	5.1	4.0	3.0	4.0
62.5°	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
65°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
67.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	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
87.5°	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



Report Generated By 670246072 / DESKTOP-50001EG





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













(END OF REPORT)