

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 EX4C159040 4LBSQLWWH**

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 EX4C159040 4LBSQLWWH
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

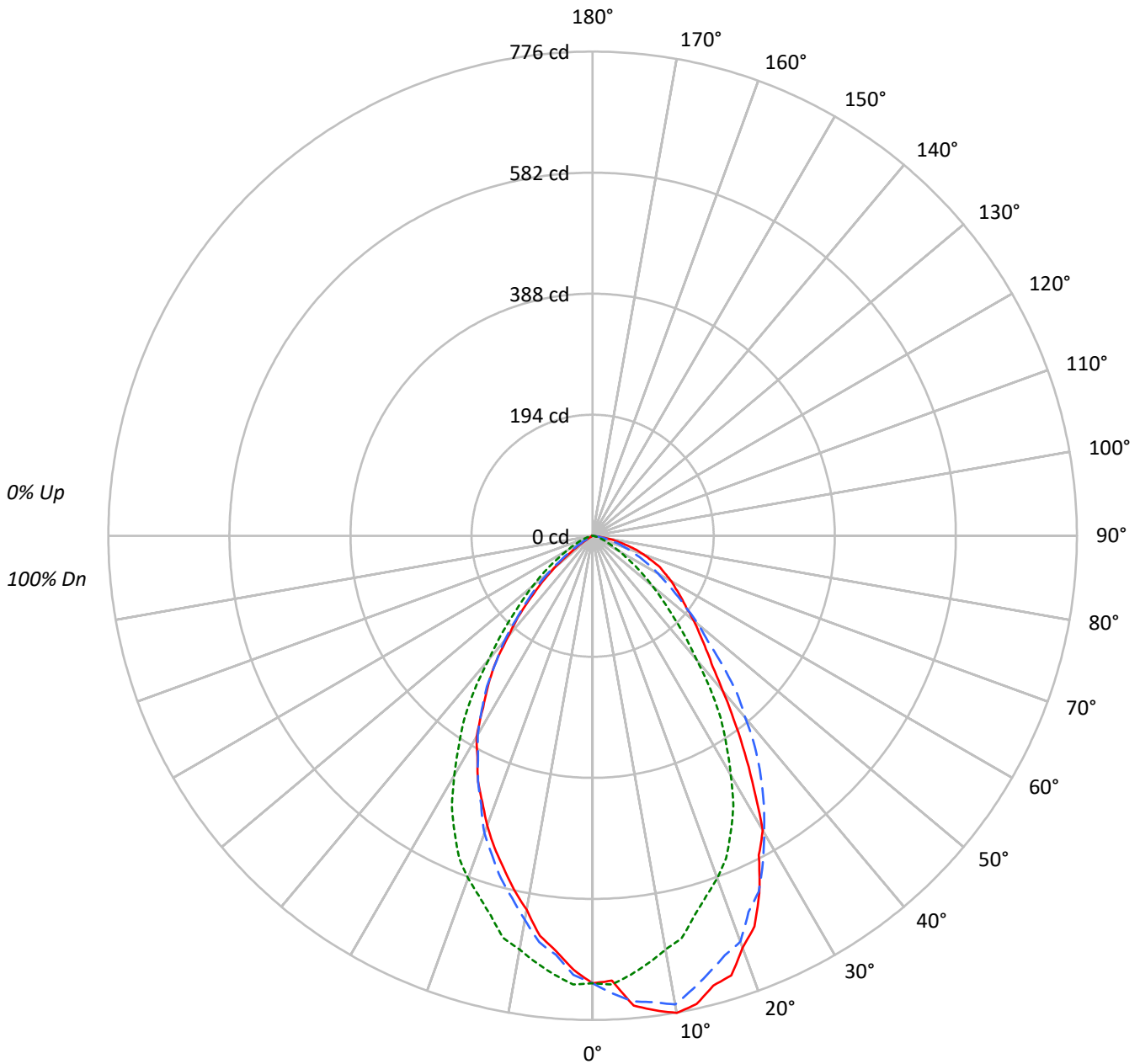
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1028.0 lumens
Efficiency: N/A
Efficacy: 65.1 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 EX4C159040 4LBSQLWWH

Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159040 4LBSQLWWH

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°	69202	69202	69202
5°	73215	68381	64720
10°	76079	65968	59649
15°	74560	62962	55061
20°	72144	59956	50684
25°	67296	55755	46237
30°	60744	49346	41391
35°	50038	42240	34336
40°	40835	32598	26426
45°	35083	24767	19008
50°	31748	18854	12009
55°	29220	13592	4340
60°	28040	9282	656
65°	27101	6279	205
70°	24262	4373	254
75°	19870	2237	0
80°	12447	945	0
85°	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159040 4LBSQLWWH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.2	6.5
10°-20°	181.0	17.6
20°-30°	241.7	23.5
30°-40°	229.5	22.3
40°-50°	158.6	15.4
50°-60°	87.6	8.5
60°-70°	43.5	4.2
70°-80°	17.1	1.7
80°-90°	1.6	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°	490.0	47.7
0°-40°	719.4	70.0
0°-60°	965.7	93.9
0°-90°	1028.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1028.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	717	717	717	717	717	
5°	756	749	706	674	668	72
15°	746	724	630	568	551	211
25°	632	630	524	434	434	288
35°	425	470	359	295	292	266
45°	257	295	182	149	139	201
55°	174	163	81	41	26	156
65°	119	86	28	1	1	115
75°	53	33	6	0	0	57
85°	0	1	0	0	0	5
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159040 4LBSQLWWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2
2.5°	713.7	733.5	735.2	733.5	736.1	735.2	739.5	735.2	740.4	732.7	734.4
5°	755.9	748.1	764.5	755.9	755.9	755.0	752.4	751.6	755.0	743.8	749.0
7.5°	767.1	778.2	792.9	774.8	775.6	775.6	770.5	768.8	768.8	748.1	754.1
10°	776.5	769.6	777.4	770.5	776.5	775.6	779.1	767.9	775.6	763.6	762.7
12.5°	768.8	766.2	776.5	765.3	761.9	762.7	758.5	755.9	758.5	744.7	743.8
15°	746.4	749.0	764.5	752.4	750.7	749.0	743.8	735.2	742.1	723.2	724.1
17.5°	738.7	734.4	737.0	726.6	729.2	727.5	726.6	718.9	717.2	705.1	705.1
20°	702.6	712.0	712.0	705.1	705.1	704.3	693.1	700.0	692.2	688.8	692.2
22.5°	677.6	678.5	678.5	672.4	673.3	669.9	663.9	659.5	663.9	659.5	652.7
25°	632.1	633.8	644.1	632.9	631.2	634.6	629.5	626.9	626.0	615.7	629.5
27.5°	577.0	594.2	593.3	589.0	594.2	587.3	584.8	585.6	588.2	587.3	590.8
30°	545.2	547.8	550.4	546.9	547.8	545.2	545.2	546.0	552.9	550.4	549.5
32.5°	480.7	489.3	496.2	496.2	497.0	499.6	498.7	516.8	521.1	512.5	510.8
35°	424.8	430.8	436.8	437.7	448.9	449.7	450.6	455.8	467.8	470.4	469.5
37.5°	371.5	377.5	379.2	387.0	393.0	399.0	405.9	412.8	423.1	431.7	427.4
40°	324.2	326.8	331.1	334.5	346.5	346.5	350.0	363.7	374.9	381.8	380.9
42.5°	284.6	285.5	288.9	295.0	306.1	303.5	306.1	315.6	331.9	332.8	342.3
45°	257.1	256.2	258.8	259.7	266.6	270.0	271.7	278.6	292.4	294.1	295.0
47.5°	232.2	231.3	235.6	237.3	239.9	243.3	243.3	244.2	249.4	253.7	250.2
50°	211.5	211.5	211.5	213.3	217.6	216.7	217.6	221.0	223.6	221.8	221.0
52.5°	189.2	192.6	195.2	196.1	196.9	196.9	197.8	196.1	195.2	192.6	187.5
55°	173.7	177.1	177.1	177.1	177.1	180.6	176.3	177.1	177.1	170.3	163.4
57.5°	158.2	161.7	164.2	160.8	164.2	160.8	159.1	158.2	156.5	149.6	139.3
60°	145.3	147.1	146.2	145.3	147.1	144.5	142.7	139.3	137.6	128.1	121.2
62.5°	130.7	131.6	132.4	130.7	129.0	128.1	124.7	119.5	116.1	108.3	102.3
65°	118.7	116.1	115.2	114.4	112.7	110.1	107.5	101.5	98.9	92.0	86.0
67.5°	100.6	99.8	101.5	98.9	94.6	94.6	92.0	86.9	80.8	76.5	70.5
70°	86.0	85.1	83.4	80.8	80.0	76.5	76.5	70.5	68.8	61.0	55.9
72.5°	70.5	70.5	67.9	65.4	62.8	61.0	60.2	55.9	53.3	49.0	44.7
75°	53.3	53.3	52.5	49.9	48.1	46.4	45.6	42.1	39.6	35.3	32.7
77.5°	37.8	37.8	34.4	32.7	33.5	31.8	30.1	29.2	28.4	25.8	22.4
80°	22.4	21.5	18.9	19.8	18.9	18.9	18.1	17.2	15.5	13.7	12.0
82.5°	6.0	6.9	6.9	6.9	7.7	6.0	6.0	6.0	6.9	6.9	4.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9
87.5°	0.9	1.7	3.4	3.4	3.4	3.4	3.4	2.6	2.6	2.6	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



TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159040 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2
2.5°	725.8	724.9	725.8	719.8	733.5	723.2	721.5	719.8	725.8	719.8	711.2
5°	741.2	732.7	730.1	727.5	735.2	723.2	720.6	721.5	717.2	706.0	706.8
7.5°	746.4	738.7	730.9	714.6	721.5	718.9	712.0	706.8	700.0	690.5	688.8
10°	748.1	739.5	728.3	723.2	712.9	709.4	706.8	698.3	689.7	673.3	669.0
12.5°	743.0	732.7	718.9	714.6	706.8	695.7	689.7	681.0	673.3	660.4	651.0
15°	720.6	712.0	707.7	693.1	689.7	682.8	670.7	658.7	647.5	630.3	625.1
17.5°	694.8	691.4	687.1	675.9	675.0	668.2	657.0	646.6	632.1	605.4	596.8
20°	668.2	668.2	654.4	650.1	658.7	644.9	636.3	626.9	596.8	583.9	568.4
22.5°	648.4	638.9	631.2	624.3	625.1	616.6	604.5	585.6	574.4	558.9	540.9
25°	609.7	613.1	595.9	593.3	595.9	576.1	570.1	554.6	538.3	523.7	509.9
27.5°	585.6	576.1	565.0	555.5	555.5	547.8	530.6	527.1	502.2	488.4	471.2
30°	549.5	542.6	533.1	519.4	517.7	511.6	497.9	489.3	463.5	442.9	433.4
32.5°	503.9	501.3	493.6	478.1	473.0	466.1	448.9	434.3	422.2	399.0	387.8
35°	471.2	461.8	445.4	432.5	428.2	416.2	402.4	392.1	379.2	358.6	344.0
37.5°	422.2	412.8	397.3	381.8	381.8	369.8	350.8	340.5	322.5	310.4	298.4
40°	379.2	367.2	351.7	333.7	331.1	313.9	306.1	288.9	277.7	258.8	257.1
42.5°	331.1	319.9	306.1	292.4	282.1	273.5	253.7	240.8	228.8	219.3	216.7
45°	287.2	272.6	260.6	243.3	233.0	222.7	209.8	201.2	191.8	181.5	175.4
47.5°	249.4	237.3	220.1	204.7	194.4	189.2	174.5	165.1	157.4	150.5	146.2
50°	210.7	196.1	186.6	169.4	167.7	155.6	143.6	135.9	131.6	125.6	119.5
52.5°	181.5	167.7	154.8	141.9	135.0	130.7	119.5	111.8	105.8	101.5	98.0
55°	153.1	141.0	130.7	117.8	113.5	107.5	94.6	92.9	86.9	80.8	76.5
57.5°	131.6	120.4	108.3	99.8	92.0	87.7	77.4	70.5	67.1	61.9	57.6
60°	111.8	99.8	90.3	80.0	76.5	70.5	62.8	56.8	52.5	48.1	43.9
62.5°	93.7	83.4	73.1	64.5	59.3	55.9	49.9	44.7	40.4	37.0	33.5
65°	77.4	67.9	59.3	50.7	48.1	43.9	39.6	35.3	31.8	27.5	24.1
67.5°	63.6	55.0	46.4	40.4	37.8	36.1	31.0	26.6	24.1	21.5	18.1
70°	49.9	43.9	37.0	31.8	29.2	26.6	23.2	20.7	17.2	15.5	12.9
72.5°	38.7	33.5	27.5	23.2	21.5	19.8	16.3	13.7	12.0	10.3	8.6
75°	27.5	23.2	19.8	15.5	14.6	13.7	11.2	9.5	7.7	6.0	5.2
77.5°	18.9	15.5	12.0	10.3	9.5	7.7	6.9	5.2	4.3	3.4	2.6
80°	10.3	7.7	6.0	5.2	4.3	3.4	3.4	2.6	1.7	1.7	0.9
82.5°	3.4	2.6	1.7	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.9
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°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	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 EX4C159040 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2
2.5°	716.3	706.8	709.4	709.4	707.7	707.7	706.0	703.4	704.3	699.1	687.9
5°	708.6	696.5	694.8	696.5	689.7	687.9	684.5	689.7	674.2	680.2	673.3
7.5°	686.2	675.0	672.4	678.5	669.9	664.7	663.9	670.7	657.0	650.1	642.4
10°	661.3	657.0	649.2	644.9	642.4	643.2	636.3	627.7	625.1	623.4	616.6
12.5°	638.9	629.5	622.6	617.4	615.7	615.7	604.5	602.8	595.1	593.3	583.0
15°	612.2	601.1	596.8	589.9	583.9	587.3	574.4	571.0	568.4	557.2	558.9
17.5°	589.0	577.0	566.7	562.4	557.2	552.1	540.0	542.6	536.6	536.6	521.1
20°	558.9	546.0	538.3	529.7	529.7	522.8	514.2	515.1	507.3	499.6	485.8
22.5°	527.1	513.4	503.9	500.5	491.9	490.2	479.8	477.3	466.9	467.8	455.8
25°	493.6	479.8	466.9	467.8	460.1	456.6	450.6	438.6	434.3	429.1	425.7
27.5°	454.0	444.6	433.4	432.5	417.9	418.8	411.1	407.6	397.3	399.9	392.1
30°	417.9	404.2	393.8	391.3	385.2	383.5	371.5	366.3	368.1	361.2	356.9
32.5°	380.9	360.3	356.0	350.8	347.4	343.1	334.5	337.9	330.2	331.9	325.0
35°	331.9	323.3	312.1	312.1	308.7	305.3	299.3	302.7	295.0	291.5	284.6
37.5°	290.6	282.9	271.7	275.2	269.1	264.0	258.8	259.7	252.8	252.0	245.1
40°	245.9	241.6	233.9	233.9	229.6	229.6	227.0	224.4	220.1	215.0	207.2
42.5°	203.8	200.4	196.9	197.8	191.8	196.9	190.0	194.4	180.6	179.7	174.5
45°	172.8	165.1	166.0	162.5	159.1	160.8	154.8	156.5	148.8	147.1	141.9
47.5°	140.2	137.6	132.4	130.7	130.7	128.1	125.6	124.7	121.2	116.9	110.1
50°	115.2	105.8	104.0	101.5	99.8	99.8	96.3	91.2	92.0	87.7	80.8
52.5°	90.3	82.5	79.1	78.3	74.8	73.1	68.8	65.4	62.8	61.0	56.8
55°	69.6	62.8	58.5	58.5	53.3	53.3	47.3	44.7	41.3	37.8	35.3
57.5°	52.5	49.0	44.7	41.3	39.6	35.3	31.8	27.5	24.9	19.8	16.3
60°	39.6	36.1	31.8	29.2	27.5	23.2	18.9	15.5	9.5	7.7	6.9
62.5°	29.2	25.8	21.5	19.8	18.1	14.6	10.3	5.2	2.6	2.6	2.6
65°	21.5	17.2	13.7	12.0	10.3	7.7	3.4	1.7	0.9	0.9	0.9
67.5°	14.6	11.2	7.7	6.9	5.2	2.6	0.9	0.9	0.9	0.9	0.9
70°	9.5	6.9	3.4	2.6	1.7	0.9	0.9	0.9	0.9	0.9	0.9
72.5°	6.0	3.4	1.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	3.4	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.9	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	0.9	0.9	0.9
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 EX4C159040 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2
2.5°	700.0	693.9	697.4	689.7	693.1	699.1	694.8	696.5
5°	675.9	672.4	668.2	657.0	665.6	672.4	669.0	668.2
7.5°	650.1	638.1	644.1	640.6	638.9	645.8	638.1	646.6
10°	623.4	614.8	614.0	608.0	608.0	613.1	614.0	608.8
12.5°	583.9	579.6	579.6	578.7	577.8	583.0	583.9	581.3
15°	555.5	553.8	549.5	548.6	543.5	551.2	552.1	551.2
17.5°	521.1	522.0	517.7	517.7	521.1	523.7	516.8	523.7
20°	497.9	493.6	491.9	484.1	488.4	492.7	492.7	493.6
22.5°	464.3	457.5	460.1	455.8	453.2	459.2	459.2	461.8
25°	426.5	426.5	428.2	425.7	427.4	430.8	428.2	434.3
27.5°	390.4	393.8	393.8	390.4	392.1	402.4	406.7	399.9
30°	356.9	357.7	360.3	358.6	363.7	367.2	366.3	371.5
32.5°	319.0	323.3	325.0	322.5	324.2	331.9	327.6	326.8
35°	289.8	282.1	281.2	282.1	285.5	287.2	285.5	291.5
37.5°	247.7	245.1	241.6	242.5	245.1	248.5	250.2	254.5
40°	207.2	203.8	203.8	202.9	200.4	209.8	209.8	209.8
42.5°	172.0	171.1	166.8	166.8	170.3	172.8	171.1	177.1
45°	141.0	137.6	135.0	135.0	137.6	137.6	140.2	139.3
47.5°	110.9	107.5	108.3	105.8	108.3	111.8	107.5	108.3
50°	83.4	83.4	81.7	83.4	82.5	83.4	81.7	80.0
52.5°	56.8	64.5	65.4	61.9	54.2	47.3	43.0	46.4
55°	32.7	29.2	29.2	28.4	26.6	25.8	23.2	25.8
57.5°	16.3	14.6	14.6	14.6	13.7	12.9	11.2	11.2
60°	6.9	6.0	6.0	5.2	4.3	3.4	2.6	3.4
62.5°	2.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7
65°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
67.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
70°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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)