

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 EX4C159035 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 EX4C159035 4LBSQLWWH
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

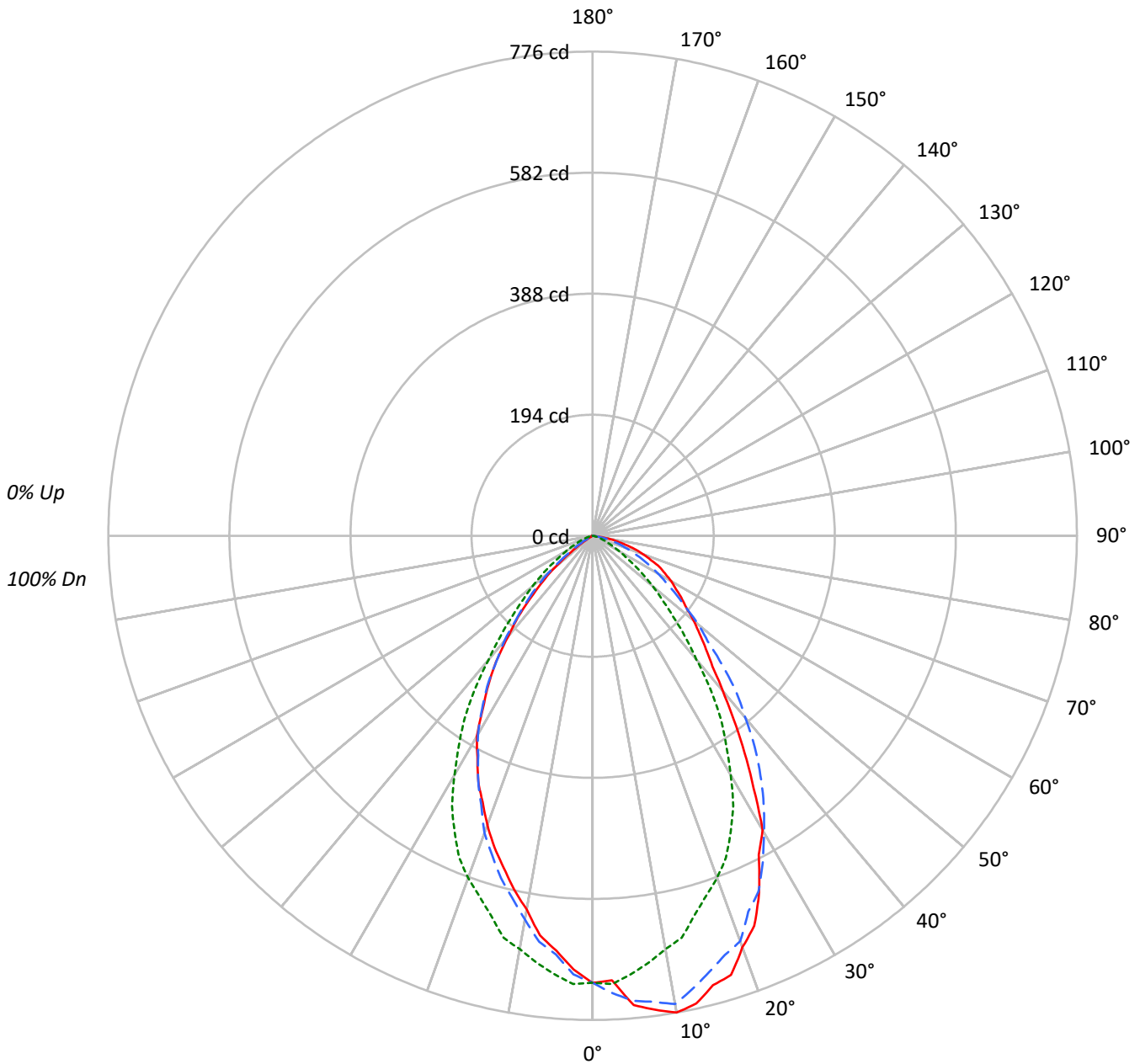
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1027.0 lumens
Efficiency: N/A
Efficacy: 65.0 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 EX4C159035 4LBSQLWWH

Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159035 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°	69134	69134	69134
5°	73137	68314	64652
10°	76011	65909	59590
15°	74490	62902	55011
20°	72072	59894	50632
25°	67221	55702	46184
30°	60688	49290	41346
35°	49991	42193	34301
40°	40798	32573	26401
45°	35056	24739	18995
50°	31718	18824	11994
55°	29187	13576	4340
60°	28020	9282	656
65°	27055	6279	205
70°	24234	4345	254
75°	19870	2237	0
80°	12391	945	0
85°	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159035 4LBSQLWWH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.1	6.5
10°-20°	180.9	17.6
20°-30°	241.5	23.5
30°-40°	229.3	22.3
40°-50°	158.5	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°	489.5	47.7
0°-40°	718.7	70.0
0°-60°	964.8	93.9
0°-90°	1027.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1027.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	716	716	716	716	716	
5°	755	748	705	674	668	72
15°	746	723	630	568	551	211
25°	631	629	523	434	434	288
35°	424	469	358	295	291	266
45°	257	295	181	149	139	200
55°	174	163	81	41	26	156
65°	118	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 EX4C159035 4LBSQLWWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5
2.5°	713.0	732.8	734.5	732.8	735.4	734.5	738.8	734.5	739.7	731.9	733.7
5°	755.1	747.4	763.7	755.1	755.1	754.3	751.7	750.8	754.3	743.1	748.3
7.5°	766.3	777.5	792.1	774.0	774.9	774.9	769.7	768.0	768.0	747.4	753.4
10°	775.8	768.9	776.6	769.7	775.8	774.9	778.3	767.1	774.9	762.9	762.0
12.5°	768.0	765.4	775.8	764.6	761.2	762.0	757.7	755.1	757.7	744.0	743.1
15°	745.7	748.3	763.7	751.7	750.0	748.3	743.1	734.5	741.4	722.5	723.4
17.5°	738.0	733.7	736.2	725.9	728.5	726.8	725.9	718.2	716.5	704.4	704.4
20°	701.9	711.3	711.3	704.4	704.4	703.6	692.4	699.3	691.6	688.1	691.6
22.5°	676.9	677.8	677.8	671.8	672.7	669.2	663.2	658.9	663.2	658.9	652.0
25°	631.4	633.2	643.5	632.3	630.6	634.0	628.8	626.3	625.4	615.1	628.8
27.5°	576.4	593.6	592.8	588.5	593.6	586.7	584.2	585.0	587.6	586.7	590.2
30°	544.7	547.2	549.8	546.4	547.2	544.7	544.7	545.5	552.4	549.8	548.9
32.5°	480.2	488.8	495.7	495.7	496.5	499.1	498.3	516.3	520.6	512.0	510.3
35°	424.4	430.4	436.4	437.3	448.4	449.3	450.2	455.3	467.3	469.9	469.0
37.5°	371.1	377.1	378.8	386.6	392.6	398.6	405.5	412.4	422.7	431.2	427.0
40°	323.9	326.4	330.7	334.2	346.2	346.2	349.6	363.4	374.6	381.4	380.6
42.5°	284.4	285.2	288.6	294.7	305.8	303.3	305.8	315.3	331.6	332.5	341.9
45°	256.9	256.0	258.6	259.4	266.3	269.8	271.5	278.3	292.1	293.8	294.7
47.5°	232.0	231.1	235.4	237.1	239.7	243.1	243.1	244.0	249.1	253.4	250.0
50°	211.3	211.3	211.3	213.0	217.4	216.5	217.4	220.8	223.3	221.6	220.8
52.5°	189.0	192.4	195.0	195.9	196.7	196.7	197.6	195.9	195.0	192.4	187.3
55°	173.5	177.0	177.0	177.0	177.0	180.4	176.1	177.0	177.0	170.1	163.2
57.5°	158.1	161.5	164.1	160.6	164.1	160.6	158.9	158.1	156.3	149.5	139.2
60°	145.2	146.9	146.0	145.2	146.9	144.3	142.6	139.2	137.5	128.0	121.1
62.5°	130.6	131.4	132.3	130.6	128.9	128.0	124.6	119.4	116.0	108.2	102.2
65°	118.5	116.0	115.1	114.3	112.5	110.0	107.4	101.4	98.8	91.9	85.9
67.5°	100.5	99.7	101.4	98.8	94.5	94.5	91.9	86.8	80.7	76.5	70.4
70°	85.9	85.1	83.3	80.7	79.9	76.5	76.5	70.4	68.7	61.0	55.8
72.5°	70.4	70.4	67.9	65.3	62.7	61.0	60.1	55.8	53.3	49.0	44.7
75°	53.3	53.3	52.4	49.8	48.1	46.4	45.5	42.1	39.5	35.2	32.6
77.5°	37.8	37.8	34.4	32.6	33.5	31.8	30.1	29.2	28.3	25.8	22.3
80°	22.3	21.5	18.9	19.8	18.9	18.9	18.0	17.2	15.4	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 EX4C159035 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5
2.5°	725.1	724.2	725.1	719.1	732.8	722.5	720.8	719.1	725.1	719.1	710.5
5°	740.5	731.9	729.3	726.8	734.5	722.5	719.9	720.8	716.5	705.3	706.2
7.5°	745.7	738.0	730.2	713.9	720.8	718.2	711.3	706.2	699.3	689.8	688.1
10°	747.4	738.8	727.6	722.5	712.2	708.8	706.2	697.6	689.0	672.7	668.4
12.5°	742.2	731.9	718.2	713.9	706.2	695.0	689.0	680.4	672.7	659.8	650.3
15°	719.9	711.3	707.0	692.4	689.0	682.1	670.1	658.1	646.9	629.7	624.5
17.5°	694.1	690.7	686.4	675.2	674.4	667.5	656.3	646.0	631.4	604.8	596.2
20°	667.5	667.5	653.8	649.5	658.1	644.3	635.7	626.3	596.2	583.3	567.9
22.5°	647.8	638.3	630.6	623.7	624.5	616.0	603.9	585.0	573.9	558.4	540.4
25°	609.1	612.5	595.4	592.8	595.4	575.6	569.6	554.1	537.8	523.2	509.4
27.5°	585.0	575.6	564.4	555.0	555.0	547.2	530.1	526.6	501.7	488.0	470.8
30°	548.9	542.1	532.6	518.9	517.2	511.2	497.4	488.8	463.1	442.4	433.0
32.5°	503.4	500.9	493.1	477.7	472.5	465.6	448.4	433.8	421.8	398.6	387.5
35°	470.8	461.3	445.0	432.1	427.8	415.8	402.0	391.7	378.8	358.2	343.6
37.5°	421.8	412.4	396.9	381.4	381.4	369.4	350.5	340.2	322.2	310.1	298.1
40°	378.8	366.8	351.4	333.3	330.7	313.5	305.8	288.6	277.5	258.6	256.9
42.5°	330.7	319.6	305.8	292.1	281.8	273.2	253.4	240.5	228.5	219.1	216.5
45°	286.9	272.3	260.3	243.1	232.8	222.5	209.6	201.0	191.6	181.3	175.3
47.5°	249.1	237.1	219.9	204.5	194.2	189.0	174.4	165.0	157.2	150.3	146.0
50°	210.5	195.9	186.4	169.2	167.5	155.5	143.5	135.7	131.4	125.4	119.4
52.5°	181.3	167.5	154.6	141.8	134.9	130.6	119.4	111.7	105.7	101.4	97.9
55°	152.9	140.9	130.6	117.7	113.4	107.4	94.5	92.8	86.8	80.7	76.5
57.5°	131.4	120.3	108.2	99.7	91.9	87.6	77.3	70.4	67.0	61.9	57.6
60°	111.7	99.7	90.2	79.9	76.5	70.4	62.7	56.7	52.4	48.1	43.8
62.5°	93.6	83.3	73.0	64.4	59.3	55.8	49.8	44.7	40.4	37.0	33.5
65°	77.3	67.9	59.3	50.7	48.1	43.8	39.5	35.2	31.8	27.5	24.1
67.5°	63.6	55.0	46.4	40.4	37.8	36.1	30.9	26.6	24.1	21.5	18.0
70°	49.8	43.8	37.0	31.8	29.2	26.6	23.2	20.6	17.2	15.4	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	15.4	14.6	13.7	11.2	9.5	7.7	6.0	5.1
77.5°	18.9	15.4	12.0	10.3	9.5	7.7	6.9	5.1	4.3	3.4	2.6
80°	10.3	7.7	6.0	5.1	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	0.0	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 EX4C159035 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5
2.5°	715.6	706.2	708.8	708.8	707.0	707.0	705.3	702.7	703.6	698.4	687.3
5°	707.9	695.9	694.1	695.9	689.0	687.3	683.8	689.0	673.5	679.5	672.7
7.5°	685.6	674.4	671.8	677.8	669.2	664.1	663.2	670.1	656.3	649.5	641.7
10°	660.6	656.3	648.6	644.3	641.7	642.6	635.7	627.1	624.5	622.8	616.0
12.5°	638.3	628.8	622.0	616.8	615.1	615.1	603.9	602.2	594.5	592.8	582.5
15°	611.7	600.5	596.2	589.3	583.3	586.7	573.9	570.4	567.9	556.7	558.4
17.5°	588.5	576.4	566.1	561.8	556.7	551.5	539.5	542.1	536.1	536.1	520.6
20°	558.4	545.5	537.8	529.2	529.2	522.3	513.7	514.6	506.8	499.1	485.4
22.5°	526.6	512.9	503.4	500.0	491.4	489.7	479.4	476.8	466.5	467.3	455.3
25°	493.1	479.4	466.5	467.3	459.6	456.2	450.2	438.1	433.8	428.7	425.3
27.5°	453.6	444.1	433.0	432.1	417.5	418.4	410.7	407.2	396.9	399.5	391.7
30°	417.5	403.8	393.5	390.9	384.9	383.2	371.1	366.0	367.7	360.8	356.5
32.5°	380.6	360.0	355.7	350.5	347.1	342.8	334.2	337.6	329.9	331.6	324.7
35°	331.6	323.0	311.8	311.8	308.4	305.0	299.0	302.4	294.7	291.2	284.4
37.5°	290.4	282.7	271.5	274.9	268.9	263.7	258.6	259.4	252.6	251.7	244.8
40°	245.7	241.4	233.7	233.7	229.4	229.4	226.8	224.2	219.9	214.8	207.0
42.5°	203.6	200.2	196.7	197.6	191.6	196.7	189.9	194.2	180.4	179.6	174.4
45°	172.7	165.0	165.8	162.4	158.9	160.6	154.6	156.3	148.6	146.9	141.8
47.5°	140.0	137.5	132.3	130.6	130.6	128.0	125.4	124.6	121.1	116.8	110.0
50°	115.1	105.7	103.9	101.4	99.7	99.7	96.2	91.1	91.9	87.6	80.7
52.5°	90.2	82.5	79.0	78.2	74.8	73.0	68.7	65.3	62.7	61.0	56.7
55°	69.6	62.7	58.4	58.4	53.3	53.3	47.3	44.7	41.2	37.8	35.2
57.5°	52.4	49.0	44.7	41.2	39.5	35.2	31.8	27.5	24.9	19.8	16.3
60°	39.5	36.1	31.8	29.2	27.5	23.2	18.9	15.4	9.5	7.7	6.9
62.5°	29.2	25.8	21.5	19.8	18.0	14.6	10.3	5.1	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	5.1	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 EX4C159035 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5
2.5°	699.3	693.3	696.7	689.0	692.4	698.4	694.1	695.9
5°	675.2	671.8	667.5	656.3	664.9	671.8	668.4	667.5
7.5°	649.5	637.4	643.5	640.0	638.3	645.2	637.4	646.0
10°	622.8	614.2	613.4	607.4	607.4	612.5	613.4	608.2
12.5°	583.3	579.0	579.0	578.2	577.3	582.5	583.3	580.8
15°	555.0	553.3	548.9	548.1	543.0	550.7	551.5	550.7
17.5°	520.6	521.4	517.2	517.2	520.6	523.2	516.3	523.2
20°	497.4	493.1	491.4	483.7	488.0	492.3	492.3	493.1
22.5°	463.9	457.0	459.6	455.3	452.7	458.7	458.7	461.3
25°	426.1	426.1	427.8	425.3	427.0	430.4	427.8	433.8
27.5°	390.0	393.5	393.5	390.0	391.7	402.0	406.3	399.5
30°	356.5	357.4	360.0	358.2	363.4	366.8	366.0	371.1
32.5°	318.7	323.0	324.7	322.2	323.9	331.6	327.3	326.4
35°	289.5	281.8	280.9	281.8	285.2	286.9	285.2	291.2
37.5°	247.4	244.8	241.4	242.3	244.8	248.3	250.0	254.3
40°	207.0	203.6	203.6	202.8	200.2	209.6	209.6	209.6
42.5°	171.8	170.9	166.7	166.7	170.1	172.7	170.9	177.0
45°	140.9	137.5	134.9	134.9	137.5	137.5	140.0	139.2
47.5°	110.8	107.4	108.2	105.7	108.2	111.7	107.4	108.2
50°	83.3	83.3	81.6	83.3	82.5	83.3	81.6	79.9
52.5°	56.7	64.4	65.3	61.9	54.1	47.3	42.9	46.4
55°	32.6	29.2	29.2	28.3	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	5.1	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



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













(END OF REPORT)