

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 EX4C159027 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 EX4C159027 4LBSQLWWH
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

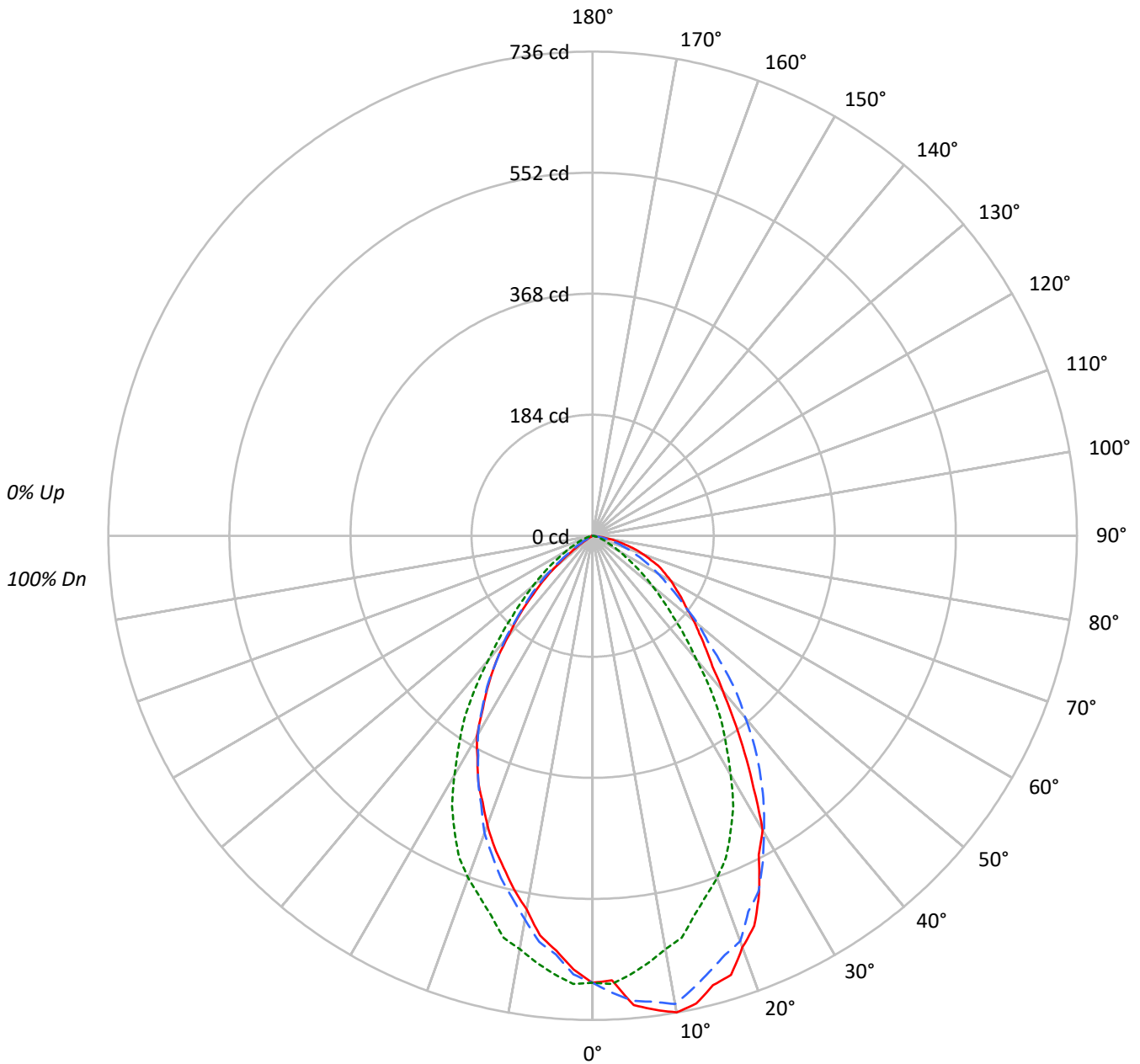
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 974.0 lumens
Efficiency: N/A
Efficacy: 61.6 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

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Luminous Intensity Polar Plot





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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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90	90	90	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80	80	80	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72	72	72	72
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64	64	64	64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58	58	58	58
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53	53	53	53
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48	48	48	48
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44	44	44	44
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41	41	41	41
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38	38	38	38

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	65564	65564	65564
5°	69369	64788	61320
10°	72082	62510	56513
15°	70644	59656	52164
20°	68355	56803	48024
25°	63761	52827	43810
30°	57557	46750	39218
35°	47411	40025	32534
40°	38694	30885	25040
45°	33241	23457	18012
50°	30082	17863	11378
55°	27690	12886	4121
60°	26573	8800	637
65°	25662	5959	183
70°	22992	4147	226
75°	18827	2125	0
80°	11780	889	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.7	6.5
10°-20°	171.5	17.6
20°-30°	229.0	23.5
30°-40°	217.4	22.3
40°-50°	150.3	15.4
50°-60°	83.0	8.5
60°-70°	41.2	4.2
70°-80°	16.2	1.7
80°-90°	1.5	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°	464.2	47.7
0°-40°	681.6	70.0
0°-60°	915.0	93.9
0°-90°	974.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	974.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	680	680	680	680	680	
5°	716	710	669	639	633	69
15°	707	686	597	539	522	200
25°	599	596	496	412	412	273
35°	402	445	340	280	276	252
45°	244	280	172	141	132	190
55°	165	155	77	39	24	148
65°	112	82	26	1	1	109
75°	50	31	6	0	0	54
85°	0	1	0	0	0	5
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5
2.5°	676.2	695.0	696.6	695.0	697.4	696.6	700.7	696.6	701.5	694.2	695.8
5°	716.2	708.8	724.3	716.2	716.2	715.4	712.9	712.1	715.4	704.8	709.6
7.5°	726.8	737.4	751.2	734.1	734.9	734.9	730.0	728.4	728.4	708.8	714.5
10°	735.7	729.2	736.5	730.0	735.7	734.9	738.2	727.6	734.9	723.5	722.7
12.5°	728.4	725.9	735.7	725.1	721.9	722.7	718.6	716.2	718.6	705.6	704.8
15°	707.2	709.6	724.3	712.9	711.3	709.6	704.8	696.6	703.1	685.2	686.0
17.5°	699.9	695.8	698.3	688.5	690.9	689.3	688.5	681.1	679.5	668.1	668.1
20°	665.7	674.6	674.6	668.1	668.1	667.3	656.7	663.2	655.9	652.6	655.9
22.5°	642.0	642.8	642.8	637.1	638.0	634.7	629.0	624.9	629.0	624.9	618.4
25°	598.9	600.5	610.2	599.7	598.0	601.3	596.4	593.9	593.1	583.4	596.4
27.5°	546.7	563.0	562.2	558.1	563.0	556.5	554.0	554.8	557.3	556.5	559.7
30°	516.6	519.0	521.4	518.2	519.0	516.6	516.6	517.4	523.9	521.4	520.6
32.5°	455.4	463.6	470.1	470.1	470.9	473.4	472.5	489.7	493.7	485.6	484.0
35°	402.5	408.2	413.9	414.7	425.3	426.1	426.9	431.8	443.2	445.7	444.8
37.5°	352.0	357.7	359.3	366.6	372.3	378.0	384.6	391.1	400.9	409.0	404.9
40°	307.2	309.6	313.7	316.9	328.3	328.3	331.6	344.6	355.2	361.8	360.9
42.5°	269.7	270.5	273.7	279.5	290.1	287.6	290.1	299.0	314.5	315.3	324.3
45°	243.6	242.8	245.2	246.0	252.6	255.8	257.5	264.0	277.0	278.6	279.5
47.5°	220.0	219.2	223.2	224.9	227.3	230.6	230.6	231.4	236.3	240.4	237.1
50°	200.4	200.4	200.4	202.1	206.1	205.3	206.1	209.4	211.8	210.2	209.4
52.5°	179.2	182.5	184.9	185.8	186.6	186.6	187.4	185.8	184.9	182.5	177.6
55°	164.6	167.8	167.8	167.8	167.8	171.1	167.0	167.8	167.8	161.3	154.8
57.5°	149.9	153.2	155.6	152.4	155.6	152.4	150.7	149.9	148.3	141.8	132.0
60°	137.7	139.3	138.5	137.7	139.3	136.9	135.2	132.0	130.4	121.4	114.9
62.5°	123.9	124.6	125.5	123.9	122.2	121.4	118.1	113.3	110.0	102.7	96.9
65°	112.4	110.0	109.2	108.4	106.7	104.3	101.9	96.1	93.7	87.2	81.5
67.5°	95.3	94.5	96.1	93.7	89.6	89.6	87.2	82.3	76.6	72.5	66.8
70°	81.5	80.7	79.0	76.6	75.8	72.5	72.5	66.8	65.2	57.8	53.0
72.5°	66.8	66.8	64.4	61.9	59.5	57.8	57.0	53.0	50.5	46.4	42.4
75°	50.5	50.5	49.7	47.2	45.6	44.0	43.2	39.9	37.5	33.4	31.0
77.5°	35.8	35.8	32.6	31.0	31.8	30.1	28.5	27.7	26.9	24.5	21.2
80°	21.2	20.4	17.9	18.7	17.9	17.9	17.1	16.3	14.7	13.0	11.4
82.5°	5.7	6.5	6.5	6.5	7.3	5.7	5.7	5.7	6.5	6.5	4.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8
87.5°	0.8	1.6	3.3	3.3	3.3	3.3	3.3	2.5	2.5	2.5	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5
2.5°	687.7	686.8	687.7	681.9	695.0	685.2	683.6	681.9	687.7	681.9	673.8
5°	702.3	694.2	691.7	689.3	696.6	685.2	682.8	683.6	679.5	668.9	669.7
7.5°	707.2	699.9	692.5	677.1	683.6	681.1	674.6	669.7	663.2	654.2	652.6
10°	708.8	700.7	690.1	685.2	675.4	672.2	669.7	661.6	653.4	638.0	633.9
12.5°	703.9	694.2	681.1	677.1	669.7	659.1	653.4	645.3	638.0	625.7	616.8
15°	682.8	674.6	670.5	656.7	653.4	646.9	635.5	624.1	613.5	597.2	592.3
17.5°	658.3	655.1	651.0	640.4	639.6	633.1	622.5	612.7	598.9	573.6	565.4
20°	633.1	633.1	620.0	616.0	624.1	611.0	602.9	593.9	565.4	553.2	538.6
22.5°	614.3	605.4	598.0	591.5	592.3	584.2	572.8	554.8	544.2	529.6	512.5
25°	577.7	580.9	564.6	562.2	564.6	545.9	540.2	525.5	510.0	496.2	483.1
27.5°	554.8	545.9	535.3	526.3	526.3	519.0	502.7	499.5	475.8	462.8	446.5
30°	520.6	514.1	505.1	492.1	490.5	484.8	471.7	463.6	439.2	419.6	410.6
32.5°	477.4	475.0	467.7	453.0	448.1	441.6	425.3	411.5	400.1	378.0	367.5
35°	446.5	437.5	422.0	409.8	405.7	394.3	381.3	371.5	359.3	339.8	325.9
37.5°	400.1	391.1	376.4	361.8	361.8	350.4	332.4	322.6	305.5	294.1	282.7
40°	359.3	347.9	333.2	316.1	313.7	297.4	290.1	273.7	263.1	245.2	243.6
42.5°	313.7	303.1	290.1	277.0	267.2	259.1	240.4	228.1	216.7	207.8	205.3
45°	272.1	258.3	246.9	230.6	220.8	211.0	198.8	190.7	181.7	171.9	166.2
47.5°	236.3	224.9	208.6	193.9	184.1	179.2	165.4	156.4	149.1	142.6	138.5
50°	199.6	185.8	176.8	160.5	158.9	147.5	136.1	128.7	124.6	119.0	113.3
52.5°	171.9	158.9	146.6	134.4	127.9	123.9	113.3	105.9	100.2	96.1	92.9
55°	145.0	133.6	123.9	111.6	107.5	101.9	89.6	88.0	82.3	76.6	72.5
57.5°	124.6	114.1	102.7	94.5	87.2	83.1	73.3	66.8	63.6	58.7	54.6
60°	105.9	94.5	85.5	75.8	72.5	66.8	59.5	53.8	49.7	45.6	41.6
62.5°	88.8	79.0	69.3	61.1	56.2	53.0	47.2	42.4	38.3	35.0	31.8
65°	73.3	64.4	56.2	48.1	45.6	41.6	37.5	33.4	30.1	26.1	22.8
67.5°	60.3	52.2	44.0	38.3	35.8	34.2	29.3	25.2	22.8	20.4	17.1
70°	47.2	41.6	35.0	30.1	27.7	25.2	22.0	19.6	16.3	14.7	12.2
72.5°	36.7	31.8	26.1	22.0	20.4	18.7	15.5	13.0	11.4	9.8	8.1
75°	26.1	22.0	18.7	14.7	13.9	13.0	10.6	9.0	7.3	5.7	4.9
77.5°	17.9	14.7	11.4	9.8	9.0	7.3	6.5	4.9	4.1	3.3	2.5
80°	9.8	7.3	5.7	4.9	4.1	3.3	3.3	2.5	1.6	1.6	0.8
82.5°	3.3	2.5	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.8
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°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	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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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5
2.5°	678.7	669.7	672.2	672.2	670.5	670.5	668.9	666.5	667.3	662.4	651.8
5°	671.3	659.9	658.3	659.9	653.4	651.8	648.6	653.4	638.8	644.5	638.0
7.5°	650.2	639.6	637.1	642.8	634.7	629.8	629.0	635.5	622.5	616.0	608.6
10°	626.5	622.5	615.1	611.0	608.6	609.4	602.9	594.8	592.3	590.7	584.2
12.5°	605.4	596.4	589.9	585.0	583.4	583.4	572.8	571.1	563.8	562.2	552.4
15°	580.1	569.5	565.4	558.9	553.2	556.5	544.2	541.0	538.6	528.0	529.6
17.5°	558.1	546.7	536.9	532.8	528.0	523.1	511.6	514.1	508.4	508.4	493.7
20°	529.6	517.4	510.0	501.9	501.9	495.4	487.2	488.0	480.7	473.4	460.3
22.5°	499.5	486.4	477.4	474.2	466.0	464.4	454.6	452.2	442.4	443.2	431.8
25°	467.7	454.6	442.4	443.2	435.9	432.6	426.9	415.5	411.5	406.6	403.3
27.5°	430.2	421.2	410.6	409.8	396.0	396.8	389.5	386.2	376.4	378.9	371.5
30°	396.0	382.9	373.1	370.7	365.0	363.4	352.0	347.1	348.7	342.2	338.1
32.5°	360.9	341.4	337.3	332.4	329.2	325.1	316.9	320.2	312.8	314.5	308.0
35°	314.5	306.3	295.7	295.7	292.5	289.2	283.5	286.8	279.5	276.2	269.7
37.5°	275.4	268.1	257.5	260.7	255.0	250.1	245.2	246.0	239.5	238.7	232.2
40°	233.0	228.9	221.6	221.6	217.5	217.5	215.1	212.7	208.6	203.7	196.3
42.5°	193.1	189.8	186.6	187.4	181.7	186.6	180.1	184.1	171.1	170.3	165.4
45°	163.8	156.4	157.2	154.0	150.7	152.4	146.6	148.3	141.0	139.3	134.4
47.5°	132.8	130.4	125.5	123.9	123.9	121.4	119.0	118.1	114.9	110.8	104.3
50°	109.2	100.2	98.6	96.1	94.5	94.5	91.3	86.4	87.2	83.1	76.6
52.5°	85.5	78.2	74.9	74.2	70.9	69.3	65.2	61.9	59.5	57.8	53.8
55°	66.0	59.5	55.4	55.4	50.5	50.5	44.8	42.4	39.1	35.8	33.4
57.5°	49.7	46.4	42.4	39.1	37.5	33.4	30.1	26.1	23.6	18.7	15.5
60°	37.5	34.2	30.1	27.7	26.1	22.0	17.9	14.7	9.0	7.3	6.5
62.5°	27.7	24.5	20.4	18.7	17.1	13.9	9.8	4.9	2.5	2.5	2.5
65°	20.4	16.3	13.0	11.4	9.8	7.3	3.3	1.6	0.8	0.8	0.8
67.5°	13.9	10.6	7.3	6.5	4.9	2.5	0.8	0.8	0.8	0.8	0.8
70°	9.0	6.5	3.3	2.5	1.6	0.8	0.8	0.8	0.8	0.8	0.8
72.5°	5.7	3.3	1.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	3.3	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.8	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	0.8	0.8	0.8
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 EX4C159027 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5
2.5°	663.2	657.5	660.7	653.4	656.7	662.4	658.3	659.9
5°	640.4	637.1	633.1	622.5	630.6	637.1	633.9	633.1
7.5°	616.0	604.5	610.2	607.0	605.4	611.9	604.5	612.7
10°	590.7	582.5	581.7	576.0	576.0	580.9	581.7	576.8
12.5°	553.2	549.2	549.2	548.3	547.5	552.4	553.2	550.8
15°	526.3	524.7	520.6	519.8	514.9	522.2	523.1	522.2
17.5°	493.7	494.5	490.5	490.5	493.7	496.2	489.7	496.2
20°	471.7	467.7	466.0	458.7	462.8	466.9	466.9	467.7
22.5°	440.0	433.4	435.9	431.8	429.4	435.1	435.1	437.5
25°	404.1	404.1	405.7	403.3	404.9	408.2	405.7	411.5
27.5°	369.9	373.1	373.1	369.9	371.5	381.3	385.4	378.9
30°	338.1	338.9	341.4	339.8	344.6	347.9	347.1	352.0
32.5°	302.3	306.3	308.0	305.5	307.2	314.5	310.4	309.6
35°	274.6	267.2	266.4	267.2	270.5	272.1	270.5	276.2
37.5°	234.6	232.2	228.9	229.8	232.2	235.5	237.1	241.2
40°	196.3	193.1	193.1	192.3	189.8	198.8	198.8	198.8
42.5°	163.0	162.1	158.1	158.1	161.3	163.8	162.1	167.8
45°	133.6	130.4	127.9	127.9	130.4	130.4	132.8	132.0
47.5°	105.1	101.9	102.7	100.2	102.7	105.9	101.9	102.7
50°	79.0	79.0	77.4	79.0	78.2	79.0	77.4	75.8
52.5°	53.8	61.1	61.9	58.7	51.3	44.8	40.7	44.0
55°	31.0	27.7	27.7	26.9	25.2	24.5	22.0	24.5
57.5°	15.5	13.9	13.9	13.9	13.0	12.2	10.6	10.6
60°	6.5	5.7	5.7	4.9	4.1	3.3	2.5	3.3
62.5°	2.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6
65°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
67.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)