

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: **LD4C10D010 EX4C109050 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: LD4C10D010 EX4C109050 4LBSQLWWLI
Description: 4 INCH 1000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

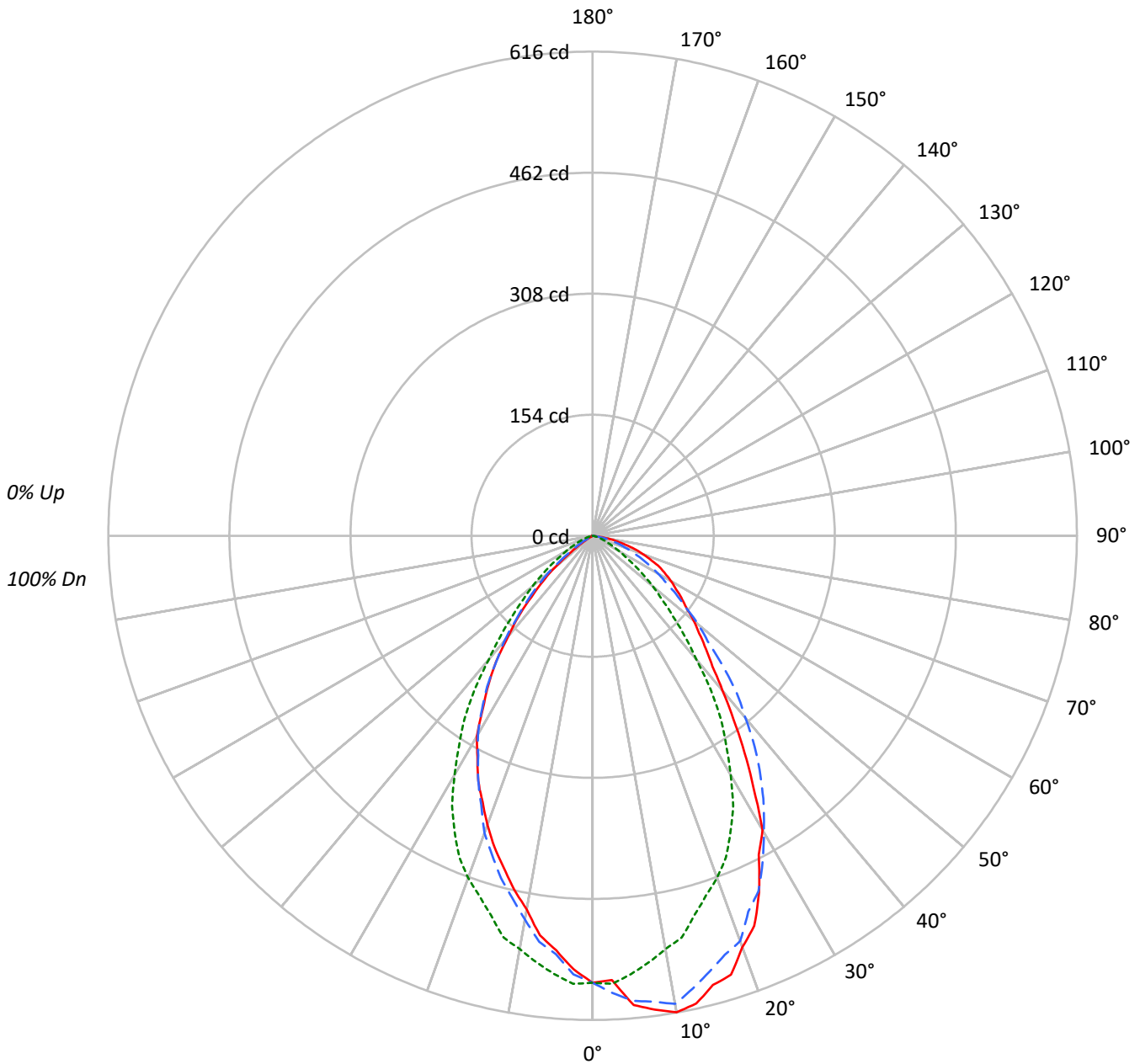
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 815.0 lumens
Efficiency: N/A
Efficacy: 83.2 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): 9.8
Input Voltage (V):
Input Current (A_{in}): 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									
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°	54864	54864	54864
5°	58047	54211	51305
10°	60315	52300	47294
15°	59106	49916	43653
20°	57194	47531	40179
25°	53349	44204	36655
30°	48154	39118	32812
35°	39672	33488	27222
40°	32371	25846	20947
45°	27810	19636	15065
50°	25173	14936	9517
55°	23164	10783	3449
60°	22231	7372	521
65°	21484	4977	160
70°	19240	3470	197
75°	15770	1789	0
80°	9835	778	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.3	6.5
10°-20°	143.5	17.6
20°-30°	191.6	23.5
30°-40°	181.9	22.3
40°-50°	125.8	15.4
50°-60°	69.5	8.5
60°-70°	34.5	4.2
70°-80°	13.6	1.7
80°-90°	1.3	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°	388.4	47.7
0°-40°	570.4	70.0
0°-60°	765.6	93.9
0°-90°	815.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	815.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	569	569	569	569	569	
5°	599	594	560	534	530	57
15°	592	574	500	451	437	167
25°	501	499	415	344	344	228
35°	337	372	284	234	231	211
45°	204	234	144	118	110	159
55°	138	130	64	33	20	124
65°	94	68	22	1	1	91
75°	42	26	5	0	0	45
85°	0	1	0	0	0	4
90°	0	0	0	0	0	



TEST NUMBER: P#

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6
2.5°	565.8	581.5	582.9	581.5	583.6	582.9	586.3	582.9	587.0	580.8	582.2
5°	599.3	593.1	606.1	599.3	599.3	598.6	596.5	595.8	598.6	589.7	593.8
7.5°	608.1	617.0	628.6	614.3	614.9	614.9	610.8	609.5	609.5	593.1	597.9
10°	615.6	610.1	616.3	610.8	615.6	614.9	617.7	608.8	614.9	605.4	604.7
12.5°	609.5	607.4	615.6	606.8	604.0	604.7	601.3	599.3	601.3	590.4	589.7
15°	591.7	593.8	606.1	596.5	595.2	593.8	589.7	582.9	588.4	573.3	574.0
17.5°	585.6	582.2	584.3	576.1	578.1	576.8	576.1	570.0	568.6	559.0	559.0
20°	557.0	564.5	564.5	559.0	559.0	558.4	549.5	554.9	548.8	546.1	548.8
22.5°	537.2	537.9	537.9	533.1	533.8	531.1	526.3	522.9	526.3	522.9	517.4
25°	501.1	502.5	510.6	501.8	500.4	503.1	499.0	497.0	496.3	488.1	499.0
27.5°	457.5	471.1	470.4	467.0	471.1	465.6	463.6	464.3	466.3	465.6	468.3
30°	432.2	434.3	436.3	433.6	434.3	432.2	432.2	432.9	438.4	436.3	435.6
32.5°	381.1	387.9	393.4	393.4	394.0	396.1	395.4	409.7	413.1	406.3	405.0
35°	336.8	341.6	346.3	347.0	355.9	356.5	357.2	361.3	370.9	372.9	372.2
37.5°	294.5	299.3	300.6	306.8	311.6	316.3	321.8	327.2	335.4	342.2	338.8
40°	257.0	259.1	262.5	265.2	274.7	274.7	277.5	288.4	297.2	302.7	302.0
42.5°	225.7	226.3	229.1	233.8	242.7	240.7	242.7	250.2	263.1	263.8	271.3
45°	203.8	203.2	205.2	205.9	211.4	214.1	215.4	220.9	231.8	233.1	233.8
47.5°	184.1	183.4	186.8	188.2	190.2	192.9	192.9	193.6	197.7	201.1	198.4
50°	167.7	167.7	167.7	169.1	172.5	171.8	172.5	175.2	177.2	175.9	175.2
52.5°	150.0	152.7	154.8	155.4	156.1	156.1	156.8	155.4	154.8	152.7	148.6
55°	137.7	140.4	140.4	140.4	140.4	143.2	139.8	140.4	140.4	135.0	129.5
57.5°	125.5	128.2	130.2	127.5	130.2	127.5	126.1	125.5	124.1	118.6	110.4
60°	115.2	116.6	115.9	115.2	116.6	114.5	113.2	110.4	109.1	101.6	96.1
62.5°	103.6	104.3	105.0	103.6	102.3	101.6	98.9	94.8	92.0	85.9	81.1
65°	94.1	92.0	91.3	90.7	89.3	87.3	85.2	80.4	78.4	72.9	68.2
67.5°	79.8	79.1	80.4	78.4	75.0	75.0	72.9	68.9	64.1	60.7	55.9
70°	68.2	67.5	66.1	64.1	63.4	60.7	60.7	55.9	54.5	48.4	44.3
72.5°	55.9	55.9	53.8	51.8	49.8	48.4	47.7	44.3	42.3	38.9	35.4
75°	42.3	42.3	41.6	39.5	38.2	36.8	36.1	33.4	31.4	28.0	25.9
77.5°	30.0	30.0	27.3	25.9	26.6	25.2	23.9	23.2	22.5	20.5	17.7
80°	17.7	17.0	15.0	15.7	15.0	15.0	14.3	13.6	12.3	10.9	9.5
82.5°	4.8	5.4	5.4	5.4	6.1	4.8	4.8	4.8	5.4	5.4	3.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7
87.5°	0.7	1.4	2.7	2.7	2.7	2.7	2.7	2.1	2.1	2.1	1.4
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°	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6
2.5°	575.4	574.7	575.4	570.6	581.5	573.3	572.0	570.6	575.4	570.6	563.8
5°	587.7	580.8	578.8	576.8	582.9	573.3	571.3	572.0	568.6	559.7	560.4
7.5°	591.7	585.6	579.5	566.5	572.0	570.0	564.5	560.4	554.9	547.4	546.1
10°	593.1	586.3	577.4	573.3	565.2	562.4	560.4	553.6	546.8	533.8	530.4
12.5°	589.0	580.8	570.0	566.5	560.4	551.5	546.8	539.9	533.8	523.6	516.1
15°	571.3	564.5	561.1	549.5	546.8	541.3	531.8	522.2	513.4	499.7	495.6
17.5°	550.9	548.1	544.7	535.8	535.2	529.7	520.9	512.7	501.1	479.9	473.1
20°	529.7	529.7	518.8	515.4	522.2	511.3	504.5	497.0	473.1	462.9	450.6
22.5°	514.0	506.5	500.4	495.0	495.6	488.8	479.3	464.3	455.4	443.1	428.8
25°	483.4	486.1	472.5	470.4	472.5	456.8	452.0	439.7	426.8	415.2	404.3
27.5°	464.3	456.8	447.9	440.4	440.4	434.3	420.6	417.9	398.1	387.2	373.6
30°	435.6	430.2	422.7	411.8	410.4	405.6	394.7	387.9	367.5	351.1	343.6
32.5°	399.5	397.5	391.3	379.1	375.0	369.5	355.9	344.3	334.7	316.3	307.5
35°	373.6	366.1	353.2	342.9	339.5	330.0	319.0	310.9	300.6	284.3	272.7
37.5°	334.7	327.2	315.0	302.7	302.7	293.2	278.2	270.0	255.7	246.1	236.6
40°	300.6	291.1	278.8	264.5	262.5	248.8	242.7	229.1	220.2	205.2	203.8
42.5°	262.5	253.6	242.7	231.8	223.6	216.8	201.1	190.9	181.4	173.9	171.8
45°	227.7	216.1	206.6	192.9	184.7	176.6	166.3	159.5	152.0	143.9	139.1
47.5°	197.7	188.2	174.5	162.3	154.1	150.0	138.4	130.9	124.8	119.3	115.9
50°	167.0	155.4	147.9	134.3	132.9	123.4	113.9	107.7	104.3	99.5	94.8
52.5°	143.9	132.9	122.7	112.5	107.0	103.6	94.8	88.6	83.9	80.4	77.7
55°	121.3	111.8	103.6	93.4	90.0	85.2	75.0	73.6	68.9	64.1	60.7
57.5°	104.3	95.4	85.9	79.1	72.9	69.6	61.4	55.9	53.2	49.1	45.7
60°	88.6	79.1	71.6	63.4	60.7	55.9	49.8	45.0	41.6	38.2	34.8
62.5°	74.3	66.1	58.0	51.1	47.0	44.3	39.5	35.4	32.1	29.3	26.6
65°	61.4	53.8	47.0	40.2	38.2	34.8	31.4	28.0	25.2	21.8	19.1
67.5°	50.5	43.6	36.8	32.1	30.0	28.6	24.5	21.1	19.1	17.0	14.3
70°	39.5	34.8	29.3	25.2	23.2	21.1	18.4	16.4	13.6	12.3	10.2
72.5°	30.7	26.6	21.8	18.4	17.0	15.7	13.0	10.9	9.5	8.2	6.8
75°	21.8	18.4	15.7	12.3	11.6	10.9	8.9	7.5	6.1	4.8	4.1
77.5°	15.0	12.3	9.5	8.2	7.5	6.1	5.4	4.1	3.4	2.7	2.1
80°	8.2	6.1	4.8	4.1	3.4	2.7	2.7	2.1	1.4	1.4	0.7
82.5°	2.7	2.1	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.7
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°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	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#

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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6
2.5°	567.9	560.4	562.4	562.4	561.1	561.1	559.7	557.7	558.4	554.2	545.4
5°	561.8	552.2	550.9	552.2	546.8	545.4	542.7	546.8	534.5	539.3	533.8
7.5°	544.0	535.2	533.1	537.9	531.1	527.0	526.3	531.8	520.9	515.4	509.3
10°	524.3	520.9	514.7	511.3	509.3	509.9	504.5	497.7	495.6	494.3	488.8
12.5°	506.5	499.0	493.6	489.5	488.1	488.1	479.3	477.9	471.8	470.4	462.2
15°	485.4	476.5	473.1	467.7	462.9	465.6	455.4	452.7	450.6	441.8	443.1
17.5°	467.0	457.5	449.3	445.9	441.8	437.7	428.1	430.2	425.4	425.4	413.1
20°	443.1	432.9	426.8	420.0	420.0	414.5	407.7	408.4	402.2	396.1	385.2
22.5°	417.9	407.0	399.5	396.8	390.0	388.6	380.4	378.4	370.2	370.9	361.3
25°	391.3	380.4	370.2	370.9	364.7	362.0	357.2	347.7	344.3	340.2	337.5
27.5°	360.0	352.5	343.6	342.9	331.3	332.0	325.9	323.2	315.0	317.0	310.9
30°	331.3	320.4	312.2	310.2	305.4	304.1	294.5	290.4	291.8	286.3	282.9
32.5°	302.0	285.7	282.2	278.2	275.4	272.0	265.2	267.9	261.8	263.1	257.7
35°	263.1	256.3	247.5	247.5	244.7	242.0	237.3	240.0	233.8	231.1	225.7
37.5°	230.4	224.3	215.4	218.2	213.4	209.3	205.2	205.9	200.4	199.8	194.3
40°	195.0	191.6	185.4	185.4	182.0	182.0	180.0	177.9	174.5	170.4	164.3
42.5°	161.6	158.8	156.1	156.8	152.0	156.1	150.7	154.1	143.2	142.5	138.4
45°	137.0	130.9	131.6	128.8	126.1	127.5	122.7	124.1	117.9	116.6	112.5
47.5°	111.1	109.1	105.0	103.6	103.6	101.6	99.5	98.9	96.1	92.7	87.3
50°	91.3	83.9	82.5	80.4	79.1	79.1	76.4	72.3	72.9	69.6	64.1
52.5°	71.6	65.4	62.7	62.0	59.3	58.0	54.5	51.8	49.8	48.4	45.0
55°	55.2	49.8	46.4	46.4	42.3	42.3	37.5	35.4	32.7	30.0	28.0
57.5°	41.6	38.9	35.4	32.7	31.4	28.0	25.2	21.8	19.8	15.7	13.0
60°	31.4	28.6	25.2	23.2	21.8	18.4	15.0	12.3	7.5	6.1	5.4
62.5°	23.2	20.5	17.0	15.7	14.3	11.6	8.2	4.1	2.1	2.1	2.1
65°	17.0	13.6	10.9	9.5	8.2	6.1	2.7	1.4	0.7	0.7	0.7
67.5°	11.6	8.9	6.1	5.4	4.1	2.1	0.7	0.7	0.7	0.7	0.7
70°	7.5	5.4	2.7	2.1	1.4	0.7	0.7	0.7	0.7	0.7	0.7
72.5°	4.8	2.7	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	2.7	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.7	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	0.7	0.7	0.7
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: LD4C10D010 EX4C109050 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6
2.5°	554.9	550.2	552.9	546.8	549.5	554.2	550.9	552.2
5°	535.8	533.1	529.7	520.9	527.7	533.1	530.4	529.7
7.5°	515.4	505.8	510.6	507.9	506.5	512.0	505.8	512.7
10°	494.3	487.4	486.8	482.0	482.0	486.1	486.8	482.7
12.5°	462.9	459.5	459.5	458.8	458.1	462.2	462.9	460.9
15°	440.4	439.0	435.6	435.0	430.9	437.0	437.7	437.0
17.5°	413.1	413.8	410.4	410.4	413.1	415.2	409.7	415.2
20°	394.7	391.3	390.0	383.8	387.2	390.7	390.7	391.3
22.5°	368.1	362.7	364.7	361.3	359.3	364.0	364.0	366.1
25°	338.1	338.1	339.5	337.5	338.8	341.6	339.5	344.3
27.5°	309.5	312.2	312.2	309.5	310.9	319.0	322.5	317.0
30°	282.9	283.6	285.7	284.3	288.4	291.1	290.4	294.5
32.5°	252.9	256.3	257.7	255.7	257.0	263.1	259.7	259.1
35°	229.8	223.6	222.9	223.6	226.3	227.7	226.3	231.1
37.5°	196.3	194.3	191.6	192.3	194.3	197.0	198.4	201.8
40°	164.3	161.6	161.6	160.9	158.8	166.3	166.3	166.3
42.5°	136.4	135.7	132.3	132.3	135.0	137.0	135.7	140.4
45°	111.8	109.1	107.0	107.0	109.1	109.1	111.1	110.4
47.5°	88.0	85.2	85.9	83.9	85.9	88.6	85.2	85.9
50°	66.1	66.1	64.8	66.1	65.4	66.1	64.8	63.4
52.5°	45.0	51.1	51.8	49.1	42.9	37.5	34.1	36.8
55°	25.9	23.2	23.2	22.5	21.1	20.5	18.4	20.5
57.5°	13.0	11.6	11.6	11.6	10.9	10.2	8.9	8.9
60°	5.4	4.8	4.8	4.1	3.4	2.7	2.1	2.7
62.5°	2.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4
65°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
67.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
70°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)