

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 EX4C109027 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: LD4C10D010 EX4C109027 4LBSQLWWH
Description: 4 INCH 1000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

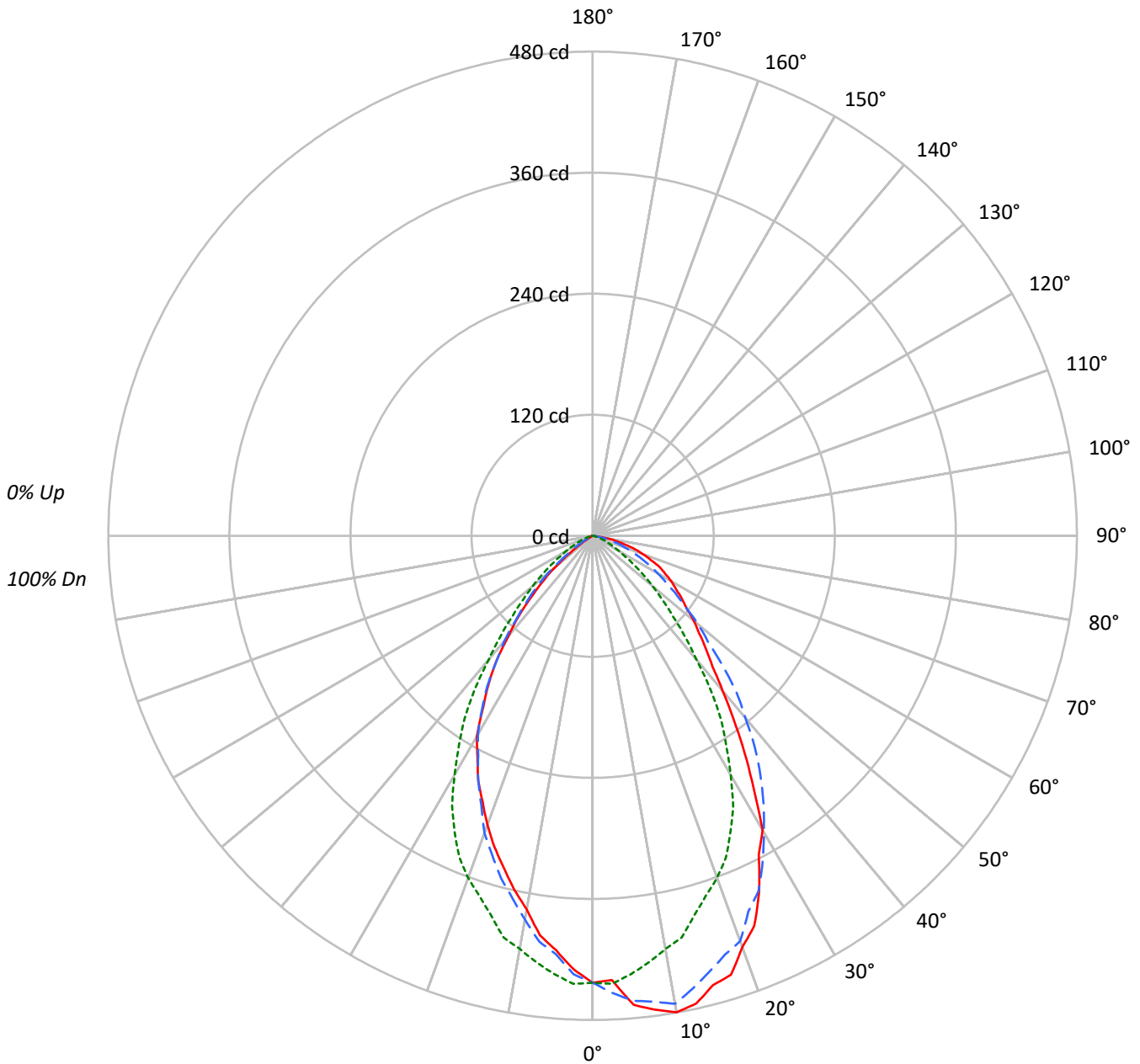
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 635.0 lumens
Efficiency: N/A
Efficacy: 64.8 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°	42745	42745	42745
5°	45223	42240	39973
10°	47000	40749	36849
15°	46061	38888	34013
20°	44564	37037	31308
25°	41563	34441	28554
30°	37525	30483	25570
35°	30908	26091	21214
40°	25229	20141	16324
45°	21669	15297	11749
50°	19619	11649	7415
55°	18050	8394	2675
60°	17329	5731	405
65°	16735	3881	114
70°	14980	2708	141
75°	12265	1379	0
80°	7668	611	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.5	6.5
10°-20°	111.8	17.6
20°-30°	149.3	23.5
30°-40°	141.7	22.3
40°-50°	98.0	15.4
50°-60°	54.1	8.5
60°-70°	26.9	4.2
70°-80°	10.6	1.7
80°-90°	1.0	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°	302.6	47.7
0°-40°	444.4	70.0
0°-60°	596.5	93.9
0°-90°	635.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	635.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	443	443	443	443	443	
5°	467	463	436	416	413	45
15°	461	447	389	351	340	130
25°	390	389	324	268	268	178
35°	262	290	222	182	180	164
45°	159	182	112	92	86	124
55°	107	101	50	26	16	97
65°	73	53	17	0	0	71
75°	33	20	4	0	0	35
85°	0	0	0	0	0	3
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: LD4C10D010 EX4C109027 4LBSQLWWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0
2.5°	440.9	453.1	454.1	453.1	454.7	454.1	456.8	454.1	457.3	452.6	453.6
5°	466.9	462.1	472.2	466.9	466.9	466.4	464.8	464.2	466.4	459.5	462.7
7.5°	473.8	480.7	489.8	478.6	479.1	479.1	475.9	474.9	474.9	462.1	465.8
10°	479.7	475.4	480.2	475.9	479.7	479.1	481.2	474.3	479.1	471.7	471.1
12.5°	474.9	473.3	479.7	472.7	470.6	471.1	468.5	466.9	468.5	460.0	459.5
15°	461.1	462.7	472.2	464.8	463.7	462.7	459.5	454.1	458.4	446.7	447.3
17.5°	456.3	453.6	455.2	448.8	450.4	449.4	448.8	444.1	443.0	435.6	435.6
20°	434.0	439.8	439.8	435.6	435.6	435.0	428.1	432.4	427.6	425.5	427.6
22.5°	418.6	419.1	419.1	415.4	415.9	413.8	410.1	407.4	410.1	407.4	403.2
25°	390.4	391.5	397.9	390.9	389.9	392.0	388.8	387.2	386.7	380.3	388.8
27.5°	356.4	367.0	366.5	363.8	367.0	362.8	361.2	361.7	363.3	362.8	364.9
30°	336.8	338.4	340.0	337.8	338.4	336.8	336.8	337.3	341.5	340.0	339.4
32.5°	296.9	302.2	306.5	306.5	307.0	308.6	308.1	319.2	321.9	316.6	315.5
35°	262.4	266.1	269.8	270.4	277.3	277.8	278.3	281.5	289.0	290.6	290.0
37.5°	229.5	233.2	234.2	239.0	242.8	246.5	250.7	255.0	261.3	266.6	264.0
40°	200.3	201.8	204.5	206.6	214.1	214.1	216.2	224.7	231.6	235.8	235.3
42.5°	175.8	176.3	178.5	182.2	189.1	187.5	189.1	195.0	205.0	205.6	211.4
45°	158.8	158.3	159.9	160.4	164.7	166.8	167.9	172.1	180.6	181.7	182.2
47.5°	143.4	142.9	145.5	146.6	148.2	150.3	150.3	150.9	154.0	156.7	154.6
50°	130.7	130.7	130.7	131.7	134.4	133.9	134.4	136.5	138.1	137.0	136.5
52.5°	116.9	119.0	120.6	121.1	121.6	121.6	122.2	121.1	120.6	119.0	115.8
55°	107.3	109.4	109.4	109.4	109.4	111.5	108.9	109.4	109.4	105.2	100.9
57.5°	97.7	99.9	101.5	99.3	101.5	99.3	98.3	97.7	96.7	92.4	86.1
60°	89.8	90.8	90.3	89.8	90.8	89.2	88.2	86.1	85.0	79.1	74.9
62.5°	80.7	81.3	81.8	80.7	79.7	79.1	77.0	73.8	71.7	66.9	63.2
65°	73.3	71.7	71.2	70.7	69.6	68.0	66.4	62.7	61.1	56.8	53.1
67.5°	62.1	61.6	62.7	61.1	58.4	58.4	56.8	53.6	49.9	47.3	43.6
70°	53.1	52.6	51.5	49.9	49.4	47.3	47.3	43.6	42.5	37.7	34.5
72.5°	43.6	43.6	42.0	40.4	38.8	37.7	37.2	34.5	32.9	30.3	27.6
75°	32.9	32.9	32.4	30.8	29.7	28.7	28.2	26.0	24.4	21.8	20.2
77.5°	23.4	23.4	21.2	20.2	20.7	19.6	18.6	18.1	17.5	15.9	13.8
80°	13.8	13.3	11.7	12.2	11.7	11.7	11.2	10.6	9.6	8.5	7.4
82.5°	3.7	4.2	4.2	4.2	4.8	3.7	3.7	3.7	4.2	4.2	2.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
87.5°	0.5	1.1	2.1	2.1	2.1	2.1	2.1	1.6	1.6	1.6	1.1
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0
2.5°	448.3	447.8	448.3	444.6	453.1	446.7	445.7	444.6	448.3	444.6	439.3
5°	457.9	452.6	451.0	449.4	454.1	446.7	445.1	445.7	443.0	436.1	436.6
7.5°	461.1	456.3	451.5	441.4	445.7	444.1	439.8	436.6	432.4	426.5	425.5
10°	462.1	456.8	449.9	446.7	440.3	438.2	436.6	431.3	426.0	415.9	413.3
12.5°	458.9	452.6	444.1	441.4	436.6	429.7	426.0	420.7	415.9	407.9	402.1
15°	445.1	439.8	437.2	428.1	426.0	421.7	414.3	406.9	400.0	389.3	386.2
17.5°	429.2	427.1	424.4	417.5	417.0	412.7	405.8	399.4	390.4	373.9	368.6
20°	412.7	412.7	404.2	401.6	406.9	398.4	393.1	387.2	368.6	360.7	351.1
22.5°	400.5	394.7	389.9	385.6	386.2	380.9	373.4	361.7	354.8	345.3	334.1
25°	376.6	378.7	368.1	366.5	368.1	355.9	352.2	342.6	332.5	323.5	315.0
27.5°	361.7	355.9	349.0	343.1	343.1	338.4	327.7	325.6	310.2	301.7	291.1
30°	339.4	335.2	329.3	320.8	319.8	316.0	307.6	302.2	286.3	273.6	267.7
32.5°	311.3	309.7	304.9	295.3	292.2	287.9	277.3	268.2	260.8	246.5	239.6
35°	291.1	285.2	275.2	267.2	264.5	257.1	248.6	242.2	234.2	221.5	212.5
37.5°	260.8	255.0	245.4	235.8	235.8	228.4	216.7	210.4	199.2	191.7	184.3
40°	234.2	226.8	217.3	206.1	204.5	193.9	189.1	178.5	171.6	159.9	158.8
42.5°	204.5	197.6	189.1	180.6	174.2	168.9	156.7	148.7	141.3	135.5	133.9
45°	177.4	168.4	160.9	150.3	143.9	137.6	129.6	124.3	118.5	112.1	108.4
47.5°	154.0	146.6	136.0	126.4	120.1	116.9	107.8	102.0	97.2	93.0	90.3
50°	130.1	121.1	115.3	104.6	103.6	96.1	88.7	83.9	81.3	77.6	73.8
52.5°	112.1	103.6	95.6	87.7	83.4	80.7	73.8	69.0	65.3	62.7	60.6
55°	94.5	87.1	80.7	72.8	70.1	66.4	58.4	57.4	53.6	49.9	47.3
57.5°	81.3	74.4	66.9	61.6	56.8	54.2	47.8	43.6	41.4	38.2	35.6
60°	69.0	61.6	55.8	49.4	47.3	43.6	38.8	35.1	32.4	29.7	27.1
62.5°	57.9	51.5	45.2	39.8	36.6	34.5	30.8	27.6	25.0	22.8	20.7
65°	47.8	42.0	36.6	31.3	29.7	27.1	24.4	21.8	19.6	17.0	14.9
67.5°	39.3	34.0	28.7	25.0	23.4	22.3	19.1	16.5	14.9	13.3	11.2
70°	30.8	27.1	22.8	19.6	18.1	16.5	14.3	12.8	10.6	9.6	8.0
72.5°	23.9	20.7	17.0	14.3	13.3	12.2	10.1	8.5	7.4	6.4	5.3
75°	17.0	14.3	12.2	9.6	9.0	8.5	6.9	5.8	4.8	3.7	3.2
77.5°	11.7	9.6	7.4	6.4	5.8	4.8	4.2	3.2	2.7	2.1	1.6
80°	6.4	4.8	3.7	3.2	2.7	2.1	2.1	1.6	1.1	1.1	0.5
82.5°	2.1	1.6	1.1	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5
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°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	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: LD4C10D010 EX4C109027 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0
2.5°	442.5	436.6	438.2	438.2	437.2	437.2	436.1	434.5	435.0	431.8	424.9
5°	437.7	430.3	429.2	430.3	426.0	424.9	422.8	426.0	416.4	420.2	415.9
7.5°	423.9	417.0	415.4	419.1	413.8	410.6	410.1	414.3	405.8	401.6	396.8
10°	408.5	405.8	401.0	398.4	396.8	397.3	393.1	387.8	386.2	385.1	380.9
12.5°	394.7	388.8	384.6	381.4	380.3	380.3	373.4	372.4	367.6	366.5	360.1
15°	378.2	371.3	368.6	364.4	360.7	362.8	354.8	352.7	351.1	344.2	345.3
17.5°	363.8	356.4	350.1	347.4	344.2	341.0	333.6	335.2	331.4	331.4	321.9
20°	345.3	337.3	332.5	327.2	327.2	323.0	317.6	318.2	313.4	308.6	300.1
22.5°	325.6	317.1	311.3	309.1	303.8	302.8	296.4	294.8	288.4	289.0	281.5
25°	304.9	296.4	288.4	289.0	284.2	282.1	278.3	270.9	268.2	265.1	262.9
27.5°	280.5	274.6	267.7	267.2	258.2	258.7	253.9	251.8	245.4	247.0	242.2
30°	258.2	249.7	243.3	241.7	238.0	236.9	229.5	226.3	227.4	223.1	220.4
32.5°	235.3	222.6	219.9	216.7	214.6	211.9	206.6	208.7	204.0	205.0	200.8
35°	205.0	199.7	192.8	192.8	190.7	188.6	184.9	187.0	182.2	180.1	175.8
37.5°	179.5	174.8	167.9	170.0	166.3	163.1	159.9	160.4	156.2	155.6	151.4
40°	151.9	149.3	144.5	144.5	141.8	141.8	140.2	138.6	136.0	132.8	128.0
42.5°	125.9	123.8	121.6	122.2	118.5	121.6	117.4	120.1	111.5	111.0	107.8
45°	106.8	102.0	102.5	100.4	98.3	99.3	95.6	96.7	91.9	90.8	87.7
47.5°	86.6	85.0	81.8	80.7	80.7	79.1	77.6	77.0	74.9	72.2	68.0
50°	71.2	65.3	64.3	62.7	61.6	61.6	59.5	56.3	56.8	54.2	49.9
52.5°	55.8	51.0	48.9	48.3	46.2	45.2	42.5	40.4	38.8	37.7	35.1
55°	43.0	38.8	36.1	36.1	32.9	32.9	29.2	27.6	25.5	23.4	21.8
57.5°	32.4	30.3	27.6	25.5	24.4	21.8	19.6	17.0	15.4	12.2	10.1
60°	24.4	22.3	19.6	18.1	17.0	14.3	11.7	9.6	5.8	4.8	4.2
62.5°	18.1	15.9	13.3	12.2	11.2	9.0	6.4	3.2	1.6	1.6	1.6
65°	13.3	10.6	8.5	7.4	6.4	4.8	2.1	1.1	0.5	0.5	0.5
67.5°	9.0	6.9	4.8	4.2	3.2	1.6	0.5	0.5	0.5	0.5	0.5
70°	5.8	4.2	2.1	1.6	1.1	0.5	0.5	0.5	0.5	0.5	0.5
72.5°	3.7	2.1	1.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	2.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.5	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	0.5	0.5	0.5
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 EX4C109027 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	443.0	443.0	443.0	443.0	443.0	443.0	443.0	443.0
2.5°	432.4	428.7	430.8	426.0	428.1	431.8	429.2	430.3
5°	417.5	415.4	412.7	405.8	411.1	415.4	413.3	412.7
7.5°	401.6	394.1	397.9	395.7	394.7	398.9	394.1	399.4
10°	385.1	379.8	379.3	375.5	375.5	378.7	379.3	376.1
12.5°	360.7	358.0	358.0	357.5	356.9	360.1	360.7	359.1
15°	343.1	342.1	339.4	338.9	335.7	340.5	341.0	340.5
17.5°	321.9	322.4	319.8	319.8	321.9	323.5	319.2	323.5
20°	307.6	304.9	303.8	299.0	301.7	304.4	304.4	304.9
22.5°	286.8	282.6	284.2	281.5	279.9	283.6	283.6	285.2
25°	263.5	263.5	264.5	262.9	264.0	266.1	264.5	268.2
27.5°	241.2	243.3	243.3	241.2	242.2	248.6	251.2	247.0
30°	220.4	221.0	222.6	221.5	224.7	226.8	226.3	229.5
32.5°	197.1	199.7	200.8	199.2	200.3	205.0	202.4	201.8
35°	179.0	174.2	173.7	174.2	176.3	177.4	176.3	180.1
37.5°	153.0	151.4	149.3	149.8	151.4	153.5	154.6	157.2
40°	128.0	125.9	125.9	125.4	123.8	129.6	129.6	129.6
42.5°	106.2	105.7	103.1	103.1	105.2	106.8	105.7	109.4
45°	87.1	85.0	83.4	83.4	85.0	85.0	86.6	86.1
47.5°	68.5	66.4	66.9	65.3	66.9	69.0	66.4	66.9
50°	51.5	51.5	50.5	51.5	51.0	51.5	50.5	49.4
52.5°	35.1	39.8	40.4	38.2	33.5	29.2	26.6	28.7
55°	20.2	18.1	18.1	17.5	16.5	15.9	14.3	15.9
57.5°	10.1	9.0	9.0	9.0	8.5	8.0	6.9	6.9
60°	4.2	3.7	3.7	3.2	2.7	2.1	1.6	2.1
62.5°	1.6	1.1	1.1	1.1	1.1	1.1	1.1	1.1
65°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
67.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
70°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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)