

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 EX4C159050 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: LD4C15D010 EX4C159050 4LBSQLWWLI
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

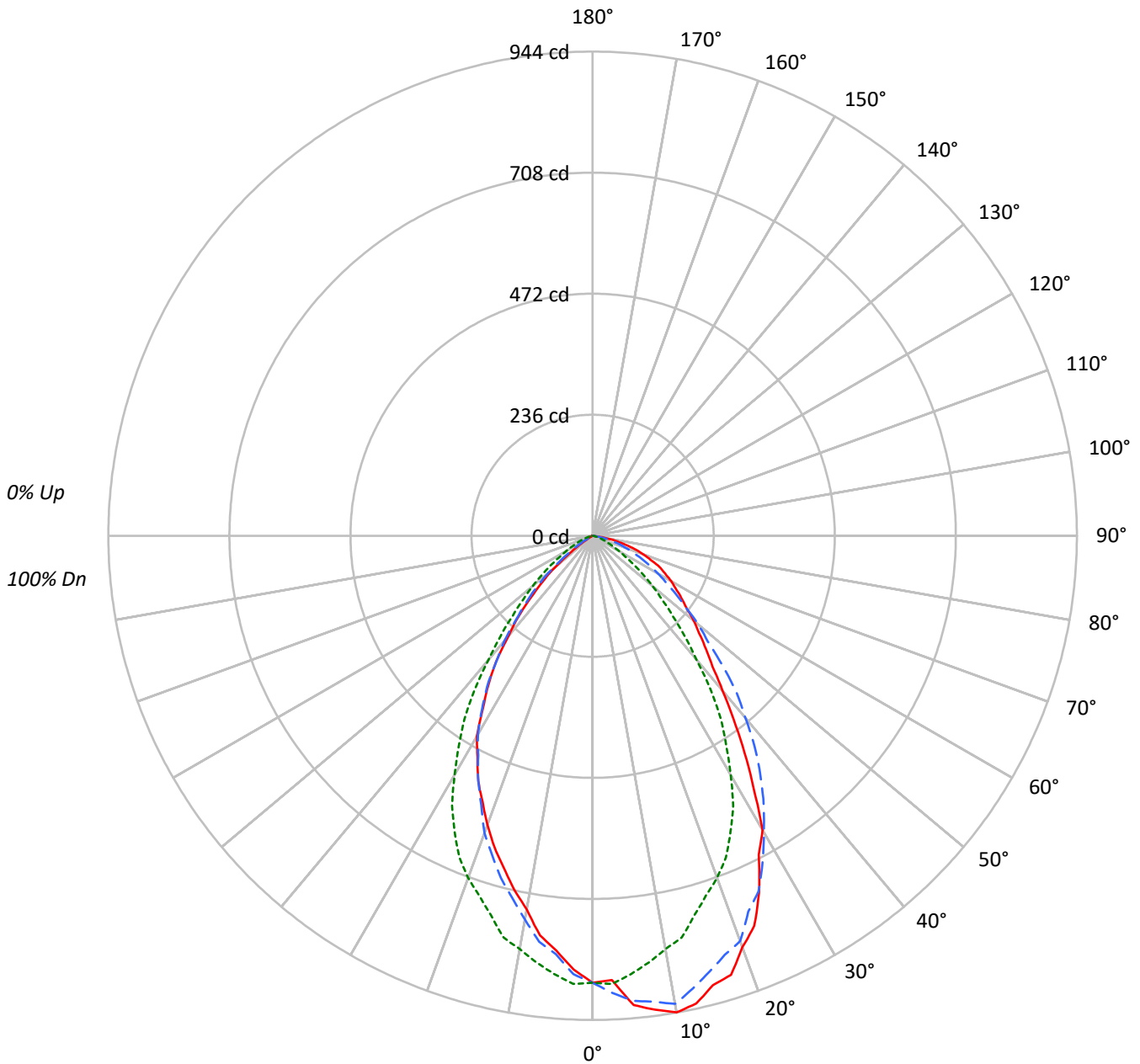
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1249.0 lumens
Efficiency: N/A
Efficacy: 79.1 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 (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°	84071	84071	84071
5°	88954	83084	78629
10°	92442	80155	72474
15°	90593	76498	66898
20°	87649	72842	61578
25°	81753	67743	56170
30°	73802	59953	50293
35°	60792	51322	41722
40°	49615	39614	32107
45°	42629	30089	23102
50°	38578	22907	14591
55°	35495	16520	5282
60°	34080	11289	811
65°	32923	7626	251
70°	29481	5304	310
75°	24158	2721	0
80°	15114	1167	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.6	6.5
10°-20°	219.9	17.6
20°-30°	293.7	23.5
30°-40°	278.8	22.3
40°-50°	192.7	15.4
50°-60°	106.5	8.5
60°-70°	52.9	4.2
70°-80°	20.8	1.7
80°-90°	2.0	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°	595.3	47.7
0°-40°	874.1	70.0
0°-60°	1173.3	93.9
0°-90°	1249.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1249.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	871	871	871	871	871	
5°	918	910	858	819	812	88
15°	907	880	766	691	670	257
25°	768	765	636	528	528	350
35°	516	570	436	358	354	323
45°	312	358	220	181	169	244
55°	211	198	98	50	31	190
65°	144	104	33	1	1	140
75°	65	40	7	0	0	69
85°	0	1	0	0	0	6
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°	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3
2.5°	867.2	891.2	893.3	891.2	894.3	893.3	898.5	893.3	899.6	890.2	892.2
5°	918.4	908.9	928.8	918.4	918.4	917.3	914.2	913.1	917.3	903.7	910.0
7.5°	932.0	945.5	963.3	941.4	942.4	942.4	936.1	934.0	934.0	908.9	916.3
10°	943.5	935.1	944.5	936.1	943.5	942.4	946.6	933.0	942.4	927.8	926.7
12.5°	934.0	930.9	943.5	929.9	925.7	926.7	921.5	918.4	921.5	904.8	903.7
15°	906.9	910.0	928.8	914.2	912.1	910.0	903.7	893.3	901.7	878.7	879.7
17.5°	897.5	892.2	895.4	882.8	886.0	883.9	882.8	873.5	871.3	856.7	856.7
20°	853.6	865.1	865.1	856.7	856.7	855.7	842.1	850.5	841.0	836.9	841.0
22.5°	823.3	824.3	824.3	817.0	818.1	813.9	806.6	801.3	806.6	801.3	793.0
25°	767.9	770.0	782.5	769.0	766.9	771.0	764.8	761.6	760.6	748.1	764.8
27.5°	701.1	721.9	720.9	715.7	721.9	713.6	710.5	711.5	714.6	713.6	717.8
30°	662.4	665.5	668.7	664.5	665.5	662.4	662.4	663.4	671.8	668.7	667.6
32.5°	584.0	594.5	602.9	602.9	603.9	607.0	606.0	627.9	633.1	622.7	620.6
35°	516.1	523.4	530.7	531.8	545.4	546.4	547.5	553.7	568.3	571.5	570.4
37.5°	451.4	458.6	460.7	470.2	477.5	484.8	493.2	501.5	514.0	524.5	519.3
40°	393.9	397.0	402.2	406.4	421.0	421.0	425.2	441.9	455.5	463.9	462.8
42.5°	345.8	346.9	351.0	358.4	372.0	368.8	372.0	383.5	403.3	404.3	415.8
45°	312.4	311.3	314.5	315.5	323.9	328.1	330.2	338.5	355.2	357.3	358.4
47.5°	282.1	281.0	286.3	288.4	291.5	295.7	295.7	296.7	303.0	308.2	304.0
50°	257.0	257.0	257.0	259.1	264.3	263.3	264.3	268.5	271.6	269.5	268.5
52.5°	229.8	234.0	237.2	238.2	239.3	239.3	240.3	238.2	237.2	234.0	227.7
55°	211.0	215.2	215.2	215.2	215.2	219.4	214.2	215.2	215.2	206.9	198.5
57.5°	192.3	196.4	199.5	195.4	199.5	195.4	193.3	192.3	190.1	181.8	169.3
60°	176.6	178.7	177.6	176.6	178.7	175.5	173.4	169.3	167.2	155.7	147.3
62.5°	158.8	159.8	160.9	158.8	156.7	155.7	151.5	145.2	141.1	131.6	124.3
65°	144.2	141.1	140.0	139.0	136.9	133.7	130.6	123.3	120.1	111.8	104.5
67.5°	122.2	121.2	123.3	120.1	114.9	114.9	111.8	105.5	98.2	93.0	85.7
70°	104.5	103.4	101.3	98.2	97.2	93.0	93.0	85.7	83.6	74.2	67.9
72.5°	85.7	85.7	82.5	79.4	76.3	74.2	73.1	67.9	64.8	59.6	54.3
75°	64.8	64.8	63.7	60.6	58.5	56.4	55.4	51.2	48.1	42.9	39.7
77.5°	46.0	46.0	41.8	39.7	40.7	38.6	36.6	35.5	34.5	31.4	27.2
80°	27.2	26.1	23.0	24.0	23.0	23.0	21.9	20.9	18.8	16.7	14.6
82.5°	7.3	8.4	8.4	8.4	9.4	7.3	7.3	7.3	8.4	8.4	5.2
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1
87.5°	1.1	2.1	4.2	4.2	4.2	4.2	4.2	3.2	3.2	3.2	2.1
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°	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3
2.5°	881.8	880.7	881.8	874.5	891.2	878.7	876.6	874.5	881.8	874.5	864.0
5°	900.6	890.2	887.0	883.9	893.3	878.7	875.5	876.6	871.3	857.8	858.8
7.5°	906.9	897.5	888.1	868.2	876.6	873.5	865.1	858.8	850.5	839.0	836.9
10°	908.9	898.5	884.9	878.7	866.1	862.0	858.8	848.4	837.9	818.1	812.8
12.5°	902.7	890.2	873.5	868.2	858.8	845.2	837.9	827.5	818.1	802.4	790.9
15°	875.5	865.1	859.9	842.1	837.9	829.5	814.9	800.3	786.7	765.8	759.5
17.5°	844.2	840.0	834.8	821.2	820.2	811.8	798.2	785.7	767.9	735.5	725.1
20°	811.8	811.8	795.1	789.9	800.3	783.6	773.1	761.6	725.1	709.4	690.6
22.5°	787.8	776.3	766.9	758.5	759.5	749.1	734.5	711.5	697.9	679.1	657.2
25°	740.8	744.9	724.1	720.9	724.1	700.0	692.7	673.9	654.0	636.3	619.6
27.5°	711.5	700.0	686.4	674.9	674.9	665.5	644.6	640.5	610.1	593.4	572.5
30°	667.6	659.3	647.8	631.1	629.0	621.6	604.9	594.5	563.1	538.1	526.6
32.5°	612.2	609.1	599.7	580.9	574.7	566.3	545.4	527.6	513.0	484.8	471.2
35°	572.5	561.1	541.2	525.5	520.3	505.7	488.9	476.4	460.7	435.7	417.9
37.5°	513.0	501.5	482.7	463.9	463.9	449.3	426.3	413.7	391.8	377.2	362.5
40°	460.7	446.1	427.3	405.4	402.2	381.3	372.0	351.0	337.4	314.5	312.4
42.5°	402.2	388.7	372.0	355.2	342.7	332.2	308.2	292.5	277.9	266.4	263.3
45°	348.9	331.2	316.6	295.7	283.1	270.6	254.9	244.5	233.0	220.5	213.1
47.5°	303.0	288.4	267.5	248.7	236.1	229.8	212.1	200.6	191.2	182.8	177.6
50°	256.0	238.2	226.7	205.8	203.7	189.1	174.5	165.1	159.8	152.6	145.2
52.5°	220.5	203.7	188.0	172.4	164.0	158.8	145.2	135.8	128.5	123.3	119.1
55°	186.0	171.3	158.8	143.1	137.9	130.6	114.9	112.9	105.5	98.2	93.0
57.5°	159.8	146.3	131.6	121.2	111.8	106.6	94.0	85.7	81.5	75.2	70.0
60°	135.8	121.2	109.7	97.2	93.0	85.7	76.3	69.0	63.7	58.5	53.3
62.5°	113.9	101.3	88.8	78.3	72.1	67.9	60.6	54.3	49.1	44.9	40.7
65°	94.0	82.5	72.1	61.6	58.5	53.3	48.1	42.9	38.6	33.4	29.3
67.5°	77.3	66.9	56.4	49.1	46.0	43.9	37.6	32.4	29.3	26.1	21.9
70°	60.6	53.3	44.9	38.6	35.5	32.4	28.2	25.1	20.9	18.8	15.7
72.5°	47.0	40.7	33.4	28.2	26.1	24.0	19.9	16.7	14.6	12.5	10.4
75°	33.4	28.2	24.0	18.8	17.8	16.7	13.6	11.5	9.4	7.3	6.3
77.5°	23.0	18.8	14.6	12.5	11.5	9.4	8.4	6.3	5.2	4.2	3.2
80°	12.5	9.4	7.3	6.3	5.2	4.2	4.2	3.2	2.1	2.1	1.1
82.5°	4.2	3.2	2.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	1.1
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°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	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°	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3
2.5°	870.3	858.8	862.0	862.0	859.9	859.9	857.8	854.6	855.7	849.4	835.8
5°	860.9	846.3	844.2	846.3	837.9	835.8	831.7	837.9	819.1	826.4	818.1
7.5°	833.8	820.2	817.0	824.3	813.9	807.6	806.6	814.9	798.2	789.9	780.5
10°	803.4	798.2	788.8	783.6	780.5	781.5	773.1	762.7	759.5	757.5	749.1
12.5°	776.3	764.8	756.4	750.2	748.1	748.1	734.5	732.4	723.0	720.9	708.4
15°	743.9	730.3	725.1	716.7	709.4	713.6	697.9	693.7	690.6	677.0	679.1
17.5°	715.7	701.1	688.5	683.3	677.0	670.8	656.1	659.3	651.9	651.9	633.1
20°	679.1	663.4	654.0	643.6	643.6	635.2	624.8	625.8	616.4	607.0	590.3
22.5°	640.5	623.7	612.2	608.1	597.6	595.5	583.0	579.9	567.3	568.3	553.7
25°	599.7	583.0	567.3	568.3	559.0	554.8	547.5	532.9	527.6	521.4	517.2
27.5°	551.6	540.1	526.6	525.5	507.8	508.8	499.4	495.2	482.7	485.8	476.4
30°	507.8	491.1	478.5	475.4	468.1	466.0	451.4	445.1	447.2	438.8	433.6
32.5°	462.8	437.8	432.5	426.3	422.1	416.9	406.4	410.6	401.2	403.3	394.9
35°	403.3	392.8	379.2	379.2	375.1	370.9	363.6	367.8	358.4	354.2	345.8
37.5°	353.1	343.8	330.2	334.3	327.0	320.7	314.5	315.5	307.2	306.1	297.7
40°	298.8	293.6	284.2	284.2	279.0	279.0	275.8	272.7	267.5	261.2	251.8
42.5°	247.6	243.4	239.3	240.3	233.0	239.3	230.9	236.1	219.4	218.4	212.1
45°	210.0	200.6	201.6	197.5	193.3	195.4	188.0	190.1	180.8	178.7	172.4
47.5°	170.3	167.2	160.9	158.8	158.8	155.7	152.6	151.5	147.3	142.1	133.7
50°	140.0	128.5	126.4	123.3	121.2	121.2	117.0	110.8	111.8	106.6	98.2
52.5°	109.7	100.3	96.1	95.1	90.9	88.8	83.6	79.4	76.3	74.2	69.0
55°	84.6	76.3	71.1	71.1	64.8	64.8	57.5	54.3	50.1	46.0	42.9
57.5°	63.7	59.6	54.3	50.1	48.1	42.9	38.6	33.4	30.3	24.0	19.9
60°	48.1	43.9	38.6	35.5	33.4	28.2	23.0	18.8	11.5	9.4	8.4
62.5°	35.5	31.4	26.1	24.0	21.9	17.8	12.5	6.3	3.2	3.2	3.2
65°	26.1	20.9	16.7	14.6	12.5	9.4	4.2	2.1	1.1	1.1	1.1
67.5°	17.8	13.6	9.4	8.4	6.3	3.2	1.1	1.1	1.1	1.1	1.1
70°	11.5	8.4	4.2	3.2	2.1	1.1	1.1	1.1	1.1	1.1	1.1
72.5°	7.3	4.2	2.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	4.2	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	2.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.1	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	1.1	1.1	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#

CATALOG NUMBER: LD4C15D010 EX4C159050 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3
2.5°	850.5	843.1	847.3	837.9	842.1	849.4	844.2	846.3
5°	821.2	817.0	811.8	798.2	808.7	817.0	812.8	811.8
7.5°	789.9	775.2	782.5	778.4	776.3	784.6	775.2	785.7
10°	757.5	747.0	746.0	738.7	738.7	744.9	746.0	739.7
12.5°	709.4	704.2	704.2	703.1	702.1	708.4	709.4	706.3
15°	674.9	672.8	667.6	666.6	660.3	669.7	670.8	669.7
17.5°	633.1	634.2	629.0	629.0	633.1	636.3	627.9	636.3
20°	604.9	599.7	597.6	588.2	593.4	598.7	598.7	599.7
22.5°	564.2	555.8	559.0	553.7	550.6	557.9	557.9	561.1
25°	518.2	518.2	520.3	517.2	519.3	523.4	520.3	527.6
27.5°	474.3	478.5	478.5	474.3	476.4	488.9	494.2	485.8
30°	433.6	434.6	437.8	435.7	441.9	446.1	445.1	451.4
32.5°	387.6	392.8	394.9	391.8	393.9	403.3	398.1	397.0
35°	352.1	342.7	341.7	342.7	346.9	348.9	346.9	354.2
37.5°	300.9	297.7	293.6	294.6	297.7	302.0	304.0	309.2
40°	251.8	247.6	247.6	246.6	243.4	254.9	254.9	254.9
42.5°	209.0	207.9	202.7	202.7	206.9	210.0	207.9	215.2
45°	171.3	167.2	164.0	164.0	167.2	167.2	170.3	169.3
47.5°	134.8	130.6	131.6	128.5	131.6	135.8	130.6	131.6
50°	101.3	101.3	99.3	101.3	100.3	101.3	99.3	97.2
52.5°	69.0	78.3	79.4	75.2	65.8	57.5	52.2	56.4
55°	39.7	35.5	35.5	34.5	32.4	31.4	28.2	31.4
57.5°	19.9	17.8	17.8	17.8	16.7	15.7	13.6	13.6
60°	8.4	7.3	7.3	6.3	5.2	4.2	3.2	4.2
62.5°	3.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1
65°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
67.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
70°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)