

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

Luminaire Equipment: Sample No. Condition Description

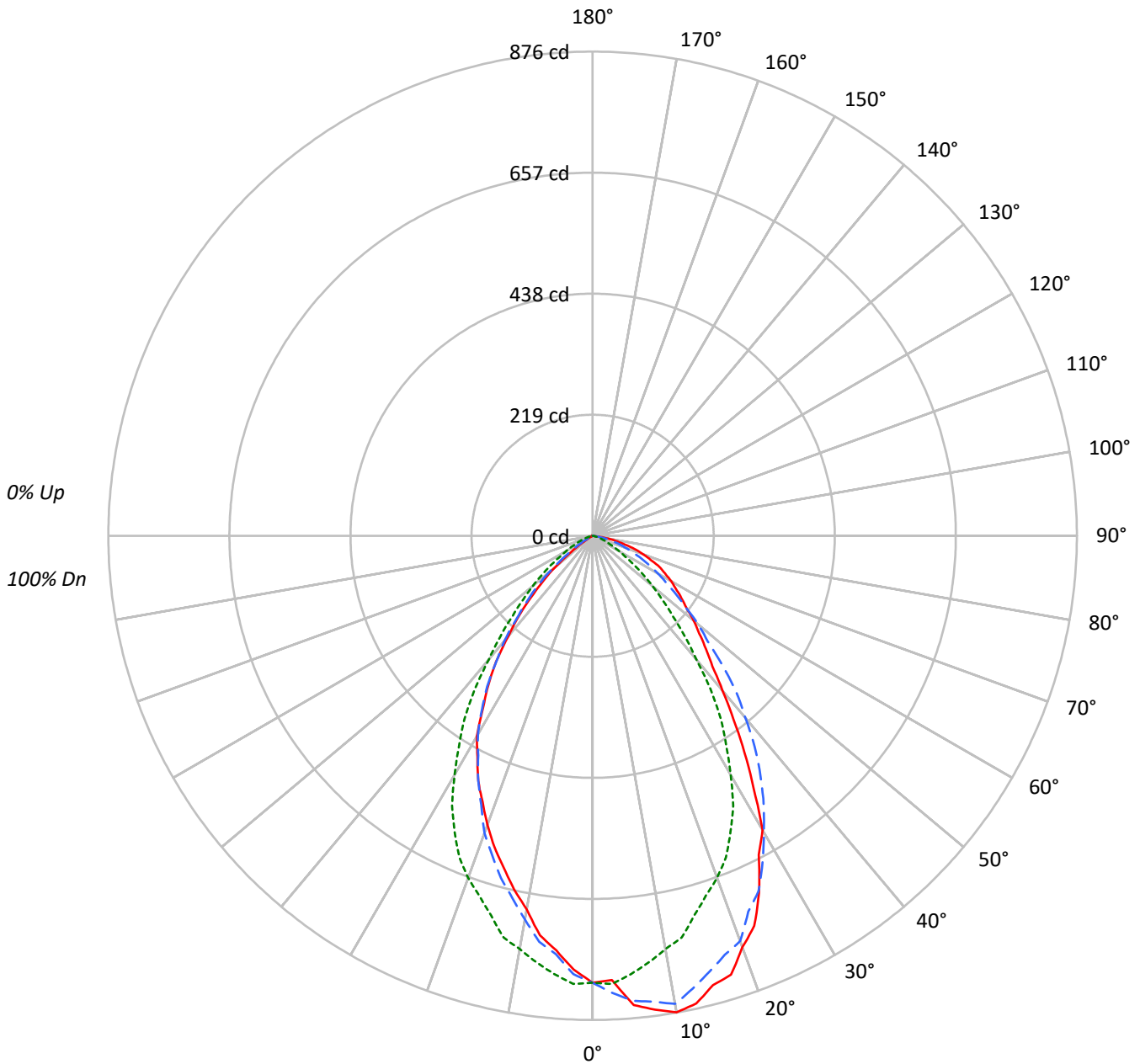
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1159.0 lumens
Efficiency: N/A
Efficacy: 73.4 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									
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°	78011	78011	78011
5°	82542	77099	72963
10°	85779	74375	67252
15°	84060	70984	62073
20°	81334	67595	57142
25°	75866	62856	52125
30°	68487	55630	46661
35°	56410	47623	38718
40°	46037	36754	29801
45°	39559	27919	21437
50°	35801	21256	13540
55°	32938	15325	4895
60°	31629	10479	753
65°	30548	7078	228
70°	27337	4909	282
75°	22406	2535	0
80°	14003	1056	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.8	6.5
10°-20°	204.1	17.6
20°-30°	272.5	23.5
30°-40°	258.7	22.3
40°-50°	178.8	15.4
50°-60°	98.8	8.5
60°-70°	49.1	4.2
70°-80°	19.3	1.7
80°-90°	1.8	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°	552.4	47.7
0°-40°	811.1	70.0
0°-60°	1088.8	93.9
0°-90°	1159.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1159.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	808	808	808	808	808	
5°	852	844	796	760	753	82
15°	842	816	711	641	621	238
25°	713	710	590	490	490	325
35°	479	529	404	332	329	300
45°	290	332	205	168	157	226
55°	196	184	91	46	29	176
65°	134	97	31	1	1	130
75°	60	37	7	0	0	64
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°	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5
2.5°	804.7	827.0	828.9	827.0	829.9	828.9	833.8	828.9	834.8	826.0	828.0
5°	852.2	843.5	861.9	852.2	852.2	851.2	848.3	847.3	851.2	838.6	844.4
7.5°	864.8	877.4	893.9	873.5	874.5	874.5	868.7	866.7	866.7	843.5	850.3
10°	875.5	867.7	876.4	868.7	875.5	874.5	878.4	865.7	874.5	860.9	859.9
12.5°	866.7	863.8	875.5	862.9	859.0	859.9	855.1	852.2	855.1	839.6	838.6
15°	841.5	844.4	861.9	848.3	846.4	844.4	838.6	828.9	836.7	815.3	816.3
17.5°	832.8	828.0	830.9	819.2	822.1	820.2	819.2	810.5	808.5	795.0	795.0
20°	792.1	802.7	802.7	795.0	795.0	794.0	781.4	789.2	780.4	776.6	780.4
22.5°	764.0	764.9	764.9	758.1	759.1	755.3	748.5	743.6	748.5	743.6	735.8
25°	712.6	714.5	726.2	713.5	711.6	715.5	709.7	706.8	705.8	694.2	709.7
27.5°	650.5	669.9	669.0	664.1	669.9	662.2	659.3	660.2	663.1	662.2	666.0
30°	614.7	617.6	620.5	616.6	617.6	614.7	614.7	615.6	623.4	620.5	619.5
32.5°	541.9	551.6	559.4	559.4	560.4	563.3	562.3	582.7	587.5	577.8	575.9
35°	478.9	485.7	492.5	493.5	506.1	507.0	508.0	513.8	527.4	530.3	529.3
37.5°	418.8	425.6	427.5	436.3	443.1	449.8	457.6	465.4	477.0	486.7	481.9
40°	365.5	368.4	373.3	377.1	390.7	390.7	394.6	410.1	422.7	430.5	429.5
42.5°	320.9	321.9	325.7	332.5	345.2	342.2	345.2	355.8	374.2	375.2	385.9
45°	289.9	288.9	291.8	292.8	300.6	304.4	306.4	314.1	329.6	331.6	332.5
47.5°	261.8	260.8	265.7	267.6	270.5	274.4	274.4	275.3	281.2	286.0	282.1
50°	238.5	238.5	238.5	240.4	245.3	244.3	245.3	249.2	252.1	250.1	249.2
52.5°	213.3	217.1	220.1	221.1	222.0	222.0	223.0	221.1	220.1	217.1	211.3
55°	195.8	199.7	199.7	199.7	199.7	203.6	198.8	199.7	199.7	192.0	184.2
57.5°	178.4	182.3	185.2	181.3	185.2	181.3	179.4	178.4	176.4	168.7	157.1
60°	163.9	165.8	164.8	163.9	165.8	162.9	160.9	157.1	155.1	144.4	136.7
62.5°	147.4	148.3	149.3	147.4	145.4	144.4	140.6	134.8	130.9	122.2	115.4
65°	133.8	130.9	129.9	129.0	127.0	124.1	121.2	114.4	111.5	103.7	96.9
67.5°	113.4	112.5	114.4	111.5	106.7	106.7	103.7	97.9	91.1	86.3	79.5
70°	96.9	96.0	94.0	91.1	90.2	86.3	86.3	79.5	77.6	68.8	63.0
72.5°	79.5	79.5	76.6	73.7	70.8	68.8	67.9	63.0	60.1	55.3	50.4
75°	60.1	60.1	59.1	56.2	54.3	52.3	51.4	47.5	44.6	39.8	36.8
77.5°	42.7	42.7	38.8	36.8	37.8	35.9	33.9	33.0	32.0	29.1	25.2
80°	25.2	24.2	21.3	22.3	21.3	21.3	20.4	19.4	17.4	15.5	13.6
82.5°	6.8	7.7	7.7	7.7	8.7	6.8	6.8	6.8	7.7	7.7	4.9
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
87.5°	1.0	1.9	3.9	3.9	3.9	3.9	3.9	2.9	2.9	2.9	1.9
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°	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5
2.5°	818.3	817.3	818.3	811.5	827.0	815.3	813.4	811.5	818.3	811.5	801.8
5°	835.7	826.0	823.1	820.2	828.9	815.3	812.5	813.4	808.5	796.0	796.9
7.5°	841.5	832.8	824.1	805.7	813.4	810.5	802.7	796.9	789.2	778.5	776.6
10°	843.5	833.8	821.2	815.3	803.7	799.8	796.9	787.2	777.6	759.1	754.3
12.5°	837.6	826.0	810.5	805.7	796.9	784.3	777.6	767.8	759.1	744.6	733.9
15°	812.5	802.7	797.9	781.4	777.6	769.8	756.2	742.6	730.0	710.6	704.8
17.5°	783.4	779.5	774.6	762.0	761.1	753.3	740.7	729.0	712.6	682.5	672.8
20°	753.3	753.3	737.8	733.0	742.6	727.1	717.4	706.8	672.8	658.3	640.8
22.5°	731.0	720.3	711.6	703.9	704.8	695.1	681.6	660.2	647.6	630.2	609.8
25°	687.4	691.3	671.9	669.0	671.9	649.5	642.8	625.3	606.9	590.4	574.9
27.5°	660.2	649.5	637.0	626.3	626.3	617.6	598.2	594.3	566.2	550.7	531.3
30°	619.5	611.8	601.1	585.6	583.6	576.8	561.4	551.6	522.6	499.3	488.6
32.5°	568.1	565.2	556.5	539.1	533.2	525.5	506.1	489.6	476.0	449.8	437.3
35°	531.3	520.6	502.2	487.7	482.8	469.2	453.7	442.1	427.5	404.3	387.8
37.5°	476.0	465.4	447.9	430.5	430.5	416.9	395.6	383.9	363.6	350.0	336.4
40°	427.5	414.0	396.5	376.2	373.3	353.8	345.2	325.7	313.1	291.8	289.9
42.5°	373.3	360.6	345.2	329.6	318.0	308.3	286.0	271.5	257.9	247.2	244.3
45°	323.8	307.3	293.8	274.4	262.7	251.1	236.6	226.9	216.2	204.6	197.8
47.5°	281.2	267.6	248.2	230.7	219.1	213.3	196.8	186.2	177.4	169.7	164.8
50°	237.5	221.1	210.4	191.0	189.0	175.5	161.9	153.2	148.3	141.6	134.8
52.5°	204.6	189.0	174.5	160.0	152.2	147.4	134.8	126.0	119.3	114.4	110.5
55°	172.6	159.0	147.4	132.8	128.0	121.2	106.7	104.7	97.9	91.1	86.3
57.5°	148.3	135.7	122.2	112.5	103.7	98.9	87.2	79.5	75.6	69.8	65.0
60°	126.0	112.5	101.8	90.2	86.3	79.5	70.8	64.0	59.1	54.3	49.5
62.5°	105.7	94.0	82.4	72.7	66.9	63.0	56.2	50.4	45.6	41.7	37.8
65°	87.2	76.6	66.9	57.2	54.3	49.5	44.6	39.8	35.9	31.0	27.2
67.5°	71.7	62.1	52.3	45.6	42.7	40.7	34.9	30.0	27.2	24.2	20.4
70°	56.2	49.5	41.7	35.9	33.0	30.0	26.2	23.3	19.4	17.4	14.5
72.5°	43.6	37.8	31.0	26.2	24.2	22.3	18.4	15.5	13.6	11.6	9.7
75°	31.0	26.2	22.3	17.4	16.5	15.5	12.6	10.7	8.7	6.8	5.8
77.5°	21.3	17.4	13.6	11.6	10.7	8.7	7.7	5.8	4.9	3.9	2.9
80°	11.6	8.7	6.8	5.8	4.9	3.9	3.9	2.9	1.9	1.9	1.0
82.5°	3.9	2.9	1.9	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0
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°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	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°	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5
2.5°	807.6	796.9	799.8	799.8	797.9	797.9	796.0	793.0	794.0	788.2	775.6
5°	798.9	785.3	783.4	785.3	777.6	775.6	771.7	777.6	760.1	766.9	759.1
7.5°	773.7	761.1	758.1	764.9	755.3	749.4	748.5	756.2	740.7	733.0	724.2
10°	745.5	740.7	732.0	727.1	724.2	725.2	717.4	707.7	704.8	702.9	695.1
12.5°	720.3	709.7	701.9	696.1	694.2	694.2	681.6	679.6	670.9	669.0	657.3
15°	690.3	677.7	672.8	665.1	658.3	662.2	647.6	643.7	640.8	628.2	630.2
17.5°	664.1	650.5	638.9	634.1	628.2	622.4	608.8	611.8	605.0	605.0	587.5
20°	630.2	615.6	606.9	597.2	597.2	589.5	579.8	580.7	572.0	563.3	547.8
22.5°	594.3	578.8	568.1	564.2	554.6	552.6	541.0	538.1	526.4	527.4	513.8
25°	556.5	541.0	526.4	527.4	518.7	514.8	508.0	494.5	489.6	483.8	479.9
27.5°	511.9	501.2	488.6	487.7	471.2	472.1	463.4	459.6	447.9	450.8	442.1
30°	471.2	455.7	444.0	441.1	434.3	432.4	418.8	413.0	415.0	407.2	402.4
32.5°	429.5	406.2	401.4	395.6	391.7	386.8	377.1	381.0	372.3	374.2	366.5
35°	374.2	364.5	351.9	351.9	348.0	344.2	337.4	341.3	332.5	328.7	320.9
37.5°	327.7	319.0	306.4	310.2	303.4	297.6	291.8	292.8	285.0	284.1	276.3
40°	277.3	272.4	263.7	263.7	258.9	258.9	255.9	253.0	248.2	242.4	233.6
42.5°	229.8	225.9	222.0	223.0	216.2	222.0	214.3	219.1	203.6	202.6	196.8
45°	194.9	186.2	187.1	183.2	179.4	181.3	174.5	176.4	167.7	165.8	160.0
47.5°	158.0	155.1	149.3	147.4	147.4	144.4	141.6	140.6	136.7	131.8	124.1
50°	129.9	119.3	117.3	114.4	112.5	112.5	108.6	102.8	103.7	98.9	91.1
52.5°	101.8	93.1	89.2	88.2	84.4	82.4	77.6	73.7	70.8	68.8	64.0
55°	78.5	70.8	65.9	65.9	60.1	60.1	53.3	50.4	46.5	42.7	39.8
57.5°	59.1	55.3	50.4	46.5	44.6	39.8	35.9	31.0	28.1	22.3	18.4
60°	44.6	40.7	35.9	33.0	31.0	26.2	21.3	17.4	10.7	8.7	7.7
62.5°	33.0	29.1	24.2	22.3	20.4	16.5	11.6	5.8	2.9	2.9	2.9
65°	24.2	19.4	15.5	13.6	11.6	8.7	3.9	1.9	1.0	1.0	1.0
67.5°	16.5	12.6	8.7	7.7	5.8	2.9	1.0	1.0	1.0	1.0	1.0
70°	10.7	7.7	3.9	2.9	1.9	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	6.8	3.9	1.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	3.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.0	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	1.0	1.0	1.0
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 EX4C159027 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5
2.5°	789.2	782.4	786.2	777.6	781.4	788.2	783.4	785.3
5°	762.0	758.1	753.3	740.7	750.4	758.1	754.3	753.3
7.5°	733.0	719.4	726.2	722.3	720.3	728.1	719.4	729.0
10°	702.9	693.2	692.2	685.4	685.4	691.3	692.2	686.4
12.5°	658.3	653.5	653.5	652.5	651.5	657.3	658.3	655.4
15°	626.3	624.4	619.5	618.6	612.7	621.4	622.4	621.4
17.5°	587.5	588.5	583.6	583.6	587.5	590.4	582.7	590.4
20°	561.4	556.5	554.6	545.8	550.7	555.5	555.5	556.5
22.5°	523.5	515.8	518.7	513.8	510.9	517.7	517.7	520.6
25°	480.9	480.9	482.8	479.9	481.9	485.7	482.8	489.6
27.5°	440.1	444.0	444.0	440.1	442.1	453.7	458.6	450.8
30°	402.4	403.3	406.2	404.3	410.1	414.0	413.0	418.8
32.5°	359.7	364.5	366.5	363.6	365.5	374.2	369.4	368.4
35°	326.7	318.0	317.0	318.0	321.9	323.8	321.9	328.7
37.5°	279.2	276.3	272.4	273.4	276.3	280.2	282.1	287.0
40°	233.6	229.8	229.8	228.8	225.9	236.6	236.6	236.6
42.5°	193.9	192.9	188.1	188.1	192.0	194.9	192.9	199.7
45°	159.0	155.1	152.2	152.2	155.1	155.1	158.0	157.1
47.5°	125.1	121.2	122.2	119.3	122.2	126.0	121.2	122.2
50°	94.0	94.0	92.1	94.0	93.1	94.0	92.1	90.2
52.5°	64.0	72.7	73.7	69.8	61.1	53.3	48.5	52.3
55°	36.8	33.0	33.0	32.0	30.0	29.1	26.2	29.1
57.5°	18.4	16.5	16.5	16.5	15.5	14.5	12.6	12.6
60°	7.7	6.8	6.8	5.8	4.9	3.9	2.9	3.9
62.5°	2.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
65°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
67.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)