

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 EX4C159040 4LBSQLWWH**

Issue Date: 2/18/2022



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 EX4C159040 4LBSQLWWH
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Summary

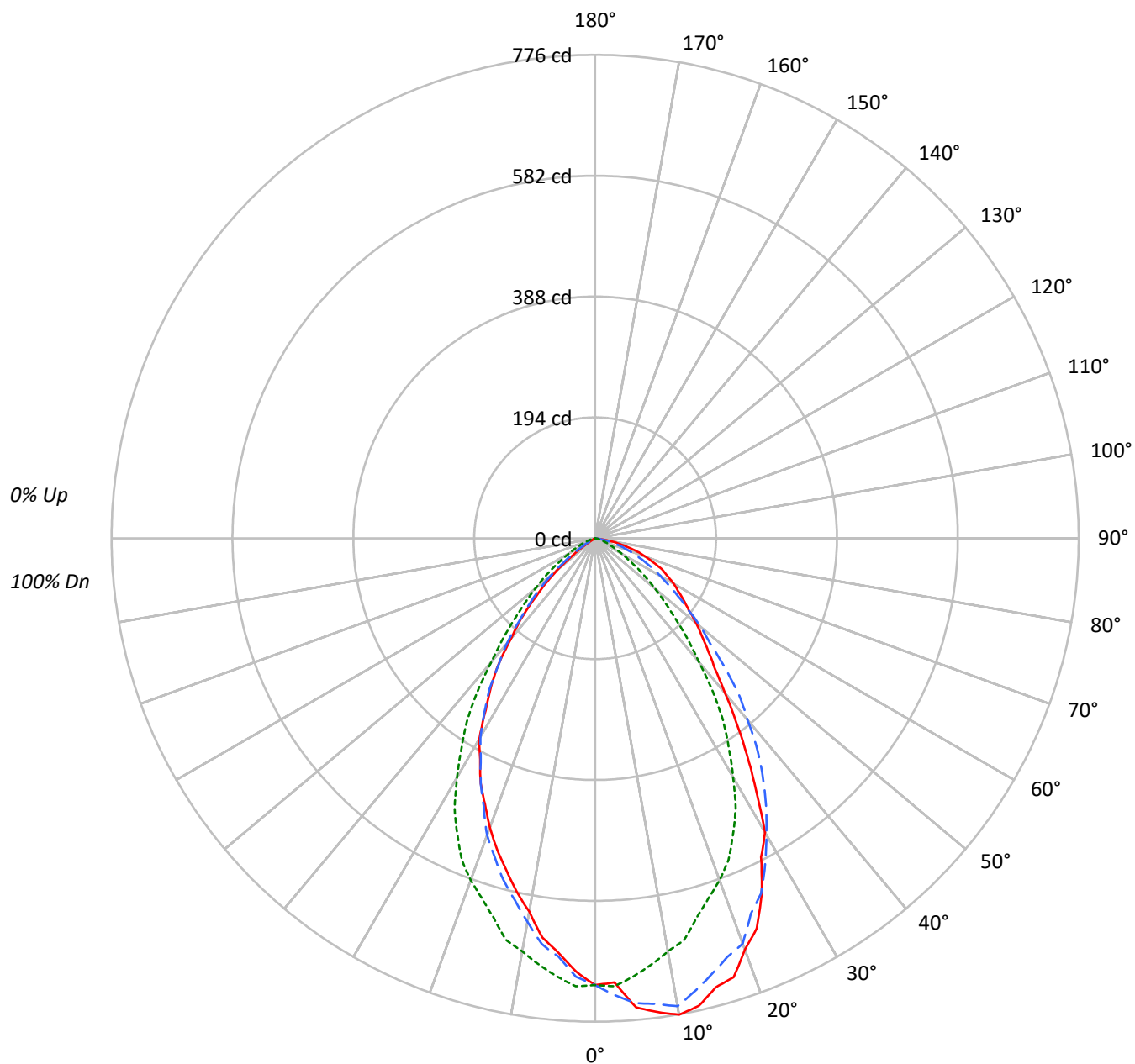
Lumens per Lamp: N/A
Luminaire Lumens: 1028.0 lumens
Efficiency: N/A
Efficacy: 65.1 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 15.8
Input Voltage (V):
Input Current (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

TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159040 4LBSQLWWH

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
RW	70	50	30	10	70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	112	108	105	102	109	106	103	101		102	100	98		98	96	95		95	93	92
2	104	98	93	89	102	96	92	88		93	89	86		90	87	84		87	84	82
3	97	89	83	78	95	88	82	77		85	80	76		82	78	75		80	77	74
4	91	81	74	69	89	80	74	69		78	72	68		76	71	67		74	70	66
5	85	75	67	62	83	74	67	62		72	66	61		70	65	60		68	64	60
6	80	69	61	56	78	68	61	56		66	60	55		65	59	55		63	58	54
7	75	63	56	51	73	63	56	51		61	55	50		60	54	50		59	54	50
8	70	59	52	47	69	58	51	46		57	51	46		56	50	46		55	50	46
9	66	55	48	43	65	54	47	43		53	47	43		52	46	42		51	46	42
10	62	51	44	40	61	51	44	40		50	44	39		49	43	39		48	43	39

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	69202	69202	69202
5°	73215	68381	64720
10°	76079	65968	59649
15°	74560	62962	55061
20°	72144	59956	50684
25°	67296	55755	46237
30°	60744	49346	41391
35°	50038	42240	34336
40°	40835	32598	26426
45°	35083	24767	19008
50°	31748	18854	12009
55°	29220	13592	4340
60°	28040	9282	656
65°	27101	6279	205
70°	24262	4373	254
75°	19870	2237	0
80°	12447	945	0
85°	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159040 4LBSQLWWH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.2	6.5
10°-20°	181.0	17.6
20°-30°	241.7	23.5
30°-40°	229.5	22.3
40°-50°	158.6	15.4
50°-60°	87.6	8.5
60°-70°	43.5	4.2
70°-80°	17.1	1.7
80°-90°	1.6	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°	490.0	47.7
0°-40°	719.4	70.0
0°-60°	965.7	93.9
0°-90°	1028.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1028.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	717	717	717	717	717	
5°	756	749	706	674	668	72
15°	746	724	630	568	551	211
25°	632	630	524	434	434	288
35°	425	470	359	295	292	266
45°	257	295	182	149	139	201
55°	174	163	81	41	26	156
65°	119	86	28	1	1	115
75°	53	33	6	0	0	57
85°	0	1	0	0	0	5
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: LD4C15D010 EX4C159040 4LBSQLWWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2
2.5°	713.7	733.5	735.2	733.5	736.1	735.2	739.5	735.2	740.4	732.7	734.4
5°	755.9	748.1	764.5	755.9	755.9	755.0	752.4	751.6	755.0	743.8	749.0
7.5°	767.1	778.2	792.9	774.8	775.6	775.6	770.5	768.8	768.8	748.1	754.1
10°	776.5	769.6	777.4	770.5	776.5	775.6	779.1	767.9	775.6	763.6	762.7
12.5°	768.8	766.2	776.5	765.3	761.9	762.7	758.5	755.9	758.5	744.7	743.8
15°	746.4	749.0	764.5	752.4	750.7	749.0	743.8	735.2	742.1	723.2	724.1
17.5°	738.7	734.4	737.0	726.6	729.2	727.5	726.6	718.9	717.2	705.1	705.1
20°	702.6	712.0	712.0	705.1	705.1	704.3	693.1	700.0	692.2	688.8	692.2
22.5°	677.6	678.5	678.5	672.4	673.3	669.9	663.9	659.5	663.9	659.5	652.7
25°	632.1	633.8	644.1	632.9	631.2	634.6	629.5	626.9	626.0	615.7	629.5
27.5°	577.0	594.2	593.3	589.0	594.2	587.3	584.8	585.6	588.2	587.3	590.8
30°	545.2	547.8	550.4	546.9	547.8	545.2	545.2	546.0	552.9	550.4	549.5
32.5°	480.7	489.3	496.2	496.2	497.0	499.6	498.7	516.8	521.1	512.5	510.8
35°	424.8	430.8	436.8	437.7	448.9	449.7	450.6	455.8	467.8	470.4	469.5
37.5°	371.5	377.5	379.2	387.0	393.0	399.0	405.9	412.8	423.1	431.7	427.4
40°	324.2	326.8	331.1	334.5	346.5	346.5	350.0	363.7	374.9	381.8	380.9
42.5°	284.6	285.5	288.9	295.0	306.1	303.5	306.1	315.6	331.9	332.8	342.3
45°	257.1	256.2	258.8	259.7	266.6	270.0	271.7	278.6	292.4	294.1	295.0
47.5°	232.2	231.3	235.6	237.3	239.9	243.3	243.3	244.2	249.4	253.7	250.2
50°	211.5	211.5	211.5	213.3	217.6	216.7	217.6	221.0	223.6	221.8	221.0
52.5°	189.2	192.6	195.2	196.1	196.9	196.9	197.8	196.1	195.2	192.6	187.5
55°	173.7	177.1	177.1	177.1	177.1	180.6	176.3	177.1	177.1	170.3	163.4
57.5°	158.2	161.7	164.2	160.8	164.2	160.8	159.1	158.2	156.5	149.6	139.3
60°	145.3	147.1	146.2	145.3	147.1	144.5	142.7	139.3	137.6	128.1	121.2
62.5°	130.7	131.6	132.4	130.7	129.0	128.1	124.7	119.5	116.1	108.3	102.3
65°	118.7	116.1	115.2	114.4	112.7	110.1	107.5	101.5	98.9	92.0	86.0
67.5°	100.6	99.8	101.5	98.9	94.6	94.6	92.0	86.9	80.8	76.5	70.5
70°	86.0	85.1	83.4	80.8	80.0	76.5	76.5	70.5	68.8	61.0	55.9
72.5°	70.5	70.5	67.9	65.4	62.8	61.0	60.2	55.9	53.3	49.0	44.7
75°	53.3	53.3	52.5	49.9	48.1	46.4	45.6	42.1	39.6	35.3	32.7
77.5°	37.8	37.8	34.4	32.7	33.5	31.8	30.1	29.2	28.4	25.8	22.4
80°	22.4	21.5	18.9	19.8	18.9	18.9	18.1	17.2	15.5	13.7	12.0
82.5°	6.0	6.9	6.9	6.9	7.7	6.0	6.0	6.0	6.9	6.9	4.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9
87.5°	0.9	1.7	3.4	3.4	3.4	3.4	3.4	2.6	2.6	2.6	1.7
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: LD4C15D010 EX4C159040 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2
2.5°	725.8	724.9	725.8	719.8	733.5	723.2	721.5	719.8	725.8	719.8	711.2
5°	741.2	732.7	730.1	727.5	735.2	723.2	720.6	721.5	717.2	706.0	706.8
7.5°	746.4	738.7	730.9	714.6	721.5	718.9	712.0	706.8	700.0	690.5	688.8
10°	748.1	739.5	728.3	723.2	712.9	709.4	706.8	698.3	689.7	673.3	669.0
12.5°	743.0	732.7	718.9	714.6	706.8	695.7	689.7	681.0	673.3	660.4	651.0
15°	720.6	712.0	707.7	693.1	689.7	682.8	670.7	658.7	647.5	630.3	625.1
17.5°	694.8	691.4	687.1	675.9	675.0	668.2	657.0	646.6	632.1	605.4	596.8
20°	668.2	668.2	654.4	650.1	658.7	644.9	636.3	626.9	596.8	583.9	568.4
22.5°	648.4	638.9	631.2	624.3	625.1	616.6	604.5	585.6	574.4	558.9	540.9
25°	609.7	613.1	595.9	593.3	595.9	576.1	570.1	554.6	538.3	523.7	509.9
27.5°	585.6	576.1	565.0	555.5	555.5	547.8	530.6	527.1	502.2	488.4	471.2
30°	549.5	542.6	533.1	519.4	517.7	511.6	497.9	489.3	463.5	442.9	433.4
32.5°	503.9	501.3	493.6	478.1	473.0	466.1	448.9	434.3	422.2	399.0	387.8
35°	471.2	461.8	445.4	432.5	428.2	416.2	402.4	392.1	379.2	358.6	344.0
37.5°	422.2	412.8	397.3	381.8	381.8	369.8	350.8	340.5	322.5	310.4	298.4
40°	379.2	367.2	351.7	333.7	331.1	313.9	306.1	288.9	277.7	258.8	257.1
42.5°	331.1	319.9	306.1	292.4	282.1	273.5	253.7	240.8	228.8	219.3	216.7
45°	287.2	272.6	260.6	243.3	233.0	222.7	209.8	201.2	191.8	181.5	175.4
47.5°	249.4	237.3	220.1	204.7	194.4	189.2	174.5	165.1	157.4	150.5	146.2
50°	210.7	196.1	186.6	169.4	167.7	155.6	143.6	135.9	131.6	125.6	119.5
52.5°	181.5	167.7	154.8	141.9	135.0	130.7	119.5	111.8	105.8	101.5	98.0
55°	153.1	141.0	130.7	117.8	113.5	107.5	94.6	92.9	86.9	80.8	76.5
57.5°	131.6	120.4	108.3	99.8	92.0	87.7	77.4	70.5	67.1	61.9	57.6
60°	111.8	99.8	90.3	80.0	76.5	70.5	62.8	56.8	52.5	48.1	43.9
62.5°	93.7	83.4	73.1	64.5	59.3	55.9	49.9	44.7	40.4	37.0	33.5
65°	77.4	67.9	59.3	50.7	48.1	43.9	39.6	35.3	31.8	27.5	24.1
67.5°	63.6	55.0	46.4	40.4	37.8	36.1	31.0	26.6	24.1	21.5	18.1
70°	49.9	43.9	37.0	31.8	29.2	26.6	23.2	20.7	17.2	15.5	12.9
72.5°	38.7	33.5	27.5	23.2	21.5	19.8	16.3	13.7	12.0	10.3	8.6
75°	27.5	23.2	19.8	15.5	14.6	13.7	11.2	9.5	7.7	6.0	5.2
77.5°	18.9	15.5	12.0	10.3	9.5	7.7	6.9	5.2	4.3	3.4	2.6
80°	10.3	7.7	6.0	5.2	4.3	3.4	3.4	2.6	1.7	1.7	0.9
82.5°	3.4	2.6	1.7	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.9
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°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	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: LD4C15D010 EX4C159040 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2
2.5°	716.3	706.8	709.4	709.4	707.7	707.7	706.0	703.4	704.3	699.1	687.9
5°	708.6	696.5	694.8	696.5	689.7	687.9	684.5	689.7	674.2	680.2	673.3
7.5°	686.2	675.0	672.4	678.5	669.9	664.7	663.9	670.7	657.0	650.1	642.4
10°	661.3	657.0	649.2	644.9	642.4	643.2	636.3	627.7	625.1	623.4	616.6
12.5°	638.9	629.5	622.6	617.4	615.7	615.7	604.5	602.8	595.1	593.3	583.0
15°	612.2	601.1	596.8	589.9	583.9	587.3	574.4	571.0	568.4	557.2	558.9
17.5°	589.0	577.0	566.7	562.4	557.2	552.1	540.0	542.6	536.6	536.6	521.1
20°	558.9	546.0	538.3	529.7	529.7	522.8	514.2	515.1	507.3	499.6	485.8
22.5°	527.1	513.4	503.9	500.5	491.9	490.2	479.8	477.3	466.9	467.8	455.8
25°	493.6	479.8	466.9	467.8	460.1	456.6	450.6	438.6	434.3	429.1	425.7
27.5°	454.0	444.6	433.4	432.5	417.9	418.8	411.1	407.6	397.3	399.9	392.1
30°	417.9	404.2	393.8	391.3	385.2	383.5	371.5	366.3	368.1	361.2	356.9
32.5°	380.9	360.3	356.0	350.8	347.4	343.1	334.5	337.9	330.2	331.9	325.0
35°	331.9	323.3	312.1	312.1	308.7	305.3	299.3	302.7	295.0	291.5	284.6
37.5°	290.6	282.9	271.7	275.2	269.1	264.0	258.8	259.7	252.8	252.0	245.1
40°	245.9	241.6	233.9	233.9	229.6	229.6	227.0	224.4	220.1	215.0	207.2
42.5°	203.8	200.4	196.9	197.8	191.8	196.9	190.0	194.4	180.6	179.7	174.5
45°	172.8	165.1	166.0	162.5	159.1	160.8	154.8	156.5	148.8	147.1	141.9
47.5°	140.2	137.6	132.4	130.7	130.7	128.1	125.6	124.7	121.2	116.9	110.1
50°	115.2	105.8	104.0	101.5	99.8	99.8	96.3	91.2	92.0	87.7	80.8
52.5°	90.3	82.5	79.1	78.3	74.8	73.1	68.8	65.4	62.8	61.0	56.8
55°	69.6	62.8	58.5	58.5	53.3	53.3	47.3	44.7	41.3	37.8	35.3
57.5°	52.5	49.0	44.7	41.3	39.6	35.3	31.8	27.5	24.9	19.8	16.3
60°	39.6	36.1	31.8	29.2	27.5	23.2	18.9	15.5	9.5	7.7	6.9
62.5°	29.2	25.8	21.5	19.8	18.1	14.6	10.3	5.2	2.6	2.6	2.6
65°	21.5	17.2	13.7	12.0	10.3	7.7	3.4	1.7	0.9	0.9	0.9
67.5°	14.6	11.2	7.7	6.9	5.2	2.6	0.9	0.9	0.9	0.9	0.9
70°	9.5	6.9	3.4	2.6	1.7	0.9	0.9	0.9	0.9	0.9	0.9
72.5°	6.0	3.4	1.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	3.4	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.9	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	0.9	0.9	0.9
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 EX4C159040 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	717.2	717.2	717.2	717.2	717.2	717.2	717.2	717.2
2.5°	700.0	693.9	697.4	689.7	693.1	699.1	694.8	696.5
5°	675.9	672.4	668.2	657.0	665.6	672.4	669.0	668.2
7.5°	650.1	638.1	644.1	640.6	638.9	645.8	638.1	646.6
10°	623.4	614.8	614.0	608.0	608.0	613.1	614.0	608.8
12.5°	583.9	579.6	579.6	578.7	577.8	583.0	583.9	581.3
15°	555.5	553.8	549.5	548.6	543.5	551.2	552.1	551.2
17.5°	521.1	522.0	517.7	517.7	521.1	523.7	516.8	523.7
20°	497.9	493.6	491.9	484.1	488.4	492.7	492.7	493.6
22.5°	464.3	457.5	460.1	455.8	453.2	459.2	459.2	461.8
25°	426.5	426.5	428.2	425.7	427.4	430.8	428.2	434.3
27.5°	390.4	393.8	393.8	390.4	392.1	402.4	406.7	399.9
30°	356.9	357.7	360.3	358.6	363.7	367.2	366.3	371.5
32.5°	319.0	323.3	325.0	322.5	324.2	331.9	327.6	326.8
35°	289.8	282.1	281.2	282.1	285.5	287.2	285.5	291.5
37.5°	247.7	245.1	241.6	242.5	245.1	248.5	250.2	254.5
40°	207.2	203.8	203.8	202.9	200.4	209.8	209.8	209.8
42.5°	172.0	171.1	166.8	166.8	170.3	172.8	171.1	177.1
45°	141.0	137.6	135.0	135.0	137.6	137.6	140.2	139.3
47.5°	110.9	107.5	108.3	105.8	108.3	111.8	107.5	108.3
50°	83.4	83.4	81.7	83.4	82.5	83.4	81.7	80.0
52.5°	56.8	64.5	65.4	61.9	54.2	47.3	43.0	46.4
55°	32.7	29.2	29.2	28.4	26.6	25.8	23.2	25.8
57.5°	16.3	14.6	14.6	14.6	13.7	12.9	11.2	11.2
60°	6.9	6.0	6.0	5.2	4.3	3.4	2.6	3.4
62.5°	2.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7
65°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
67.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
70°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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)