

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 EX4C159030 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: LD4C15D010 EX4C159030 4LBSQLWWH
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

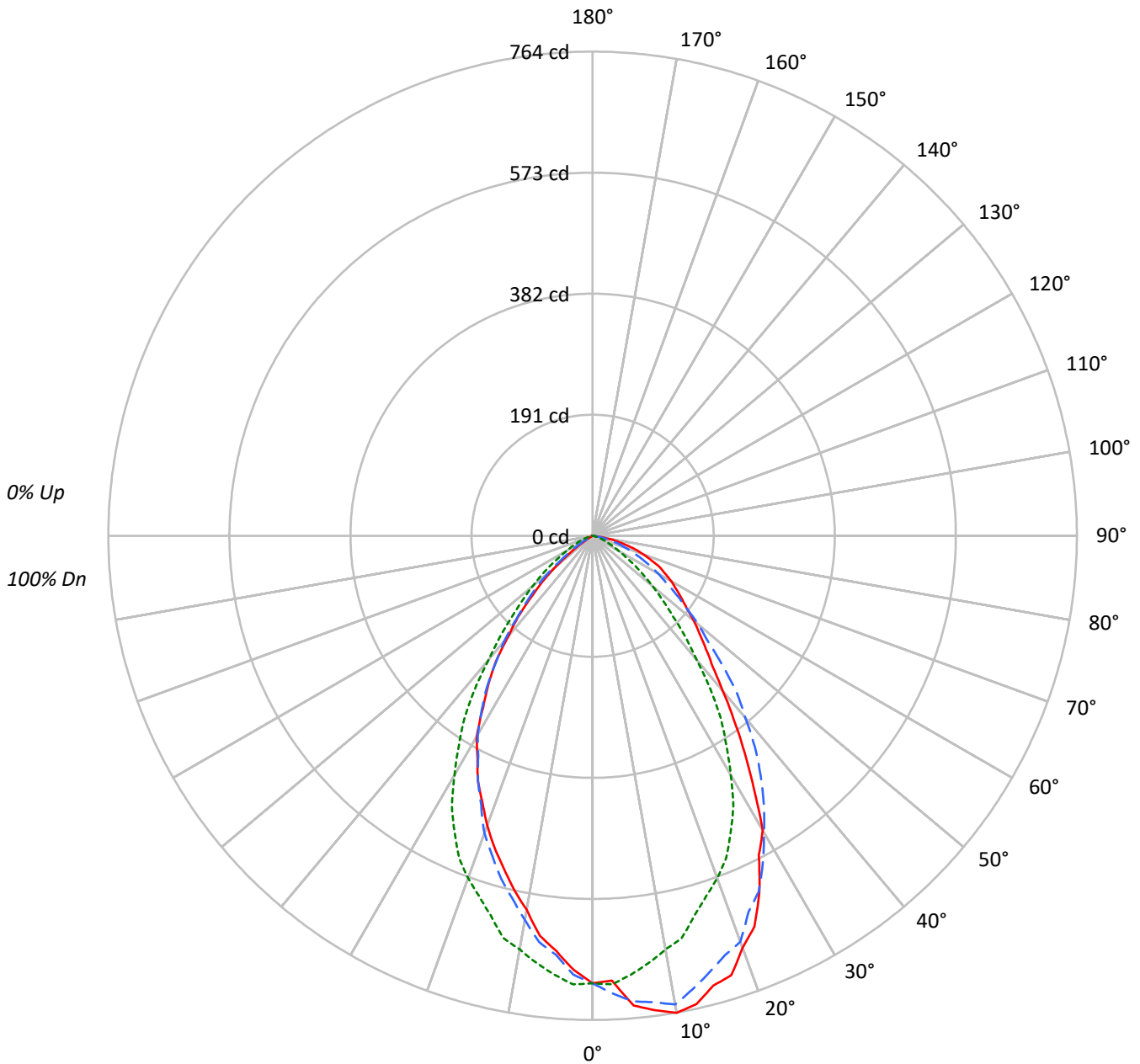
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1012.0 lumens
Efficiency: N/A
Efficacy: 64.1 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

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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°	68121	68121	68121
5°	72072	67316	63713
10°	74894	64939	58718
15°	73401	61983	54202
20°	71014	59021	49893
25°	66242	54882	45513
30°	59797	48577	40745
35°	49260	41580	33806
40°	40206	32094	26023
45°	34537	24371	18708
50°	31253	18554	11814
55°	28766	13391	4273
60°	27615	9147	656
65°	26667	6187	205
70°	23867	4288	254
75°	19572	2200	0
80°	12224	945	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.1	6.5
10°-20°	178.2	17.6
20°-30°	238.0	23.5
30°-40°	225.9	22.3
40°-50°	156.2	15.4
50°-60°	86.3	8.5
60°-70°	42.9	4.2
70°-80°	16.9	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°	482.3	47.7
0°-40°	708.2	70.0
0°-60°	950.7	93.9
0°-90°	1012.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1012.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	706	706	706	706	706	
5°	744	737	695	664	658	71
15°	735	713	620	560	543	208
25°	622	620	516	428	428	284
35°	418	462	353	290	287	262
45°	253	290	179	146	137	197
55°	171	161	80	41	25	154
65°	117	85	27	1	1	113
75°	52	32	6	0	0	56
85°	0	1	0	0	0	5
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°	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0
2.5°	702.6	722.1	723.8	722.1	724.6	723.8	728.0	723.8	728.9	721.3	722.9
5°	744.1	736.5	752.6	744.1	744.1	743.3	740.7	739.9	743.3	732.3	737.3
7.5°	755.1	766.1	780.5	762.7	763.6	763.6	758.5	756.8	756.8	736.5	742.4
10°	764.4	757.6	765.3	758.5	764.4	763.6	767.0	755.9	763.6	751.7	750.9
12.5°	756.8	754.3	764.4	753.4	750.0	750.9	746.7	744.1	746.7	733.1	732.3
15°	734.8	737.3	752.6	740.7	739.0	737.3	732.3	723.8	730.6	711.9	712.8
17.5°	727.2	722.9	725.5	715.3	717.9	716.2	715.3	707.7	706.0	694.2	694.2
20°	691.6	700.9	700.9	694.2	694.2	693.3	682.3	689.1	681.5	678.1	681.5
22.5°	667.1	667.9	667.9	662.0	662.8	659.5	653.5	649.3	653.5	649.3	642.5
25°	622.2	623.9	634.1	623.0	621.4	624.7	619.7	617.1	616.3	606.1	619.7
27.5°	568.0	584.9	584.1	579.9	584.9	578.2	575.7	576.5	579.0	578.2	581.6
30°	536.7	539.2	541.8	538.4	539.2	536.7	536.7	537.5	544.3	541.8	540.9
32.5°	473.2	481.7	488.5	488.5	489.3	491.8	491.0	508.8	513.0	504.5	502.9
35°	418.2	424.1	430.0	430.9	441.9	442.7	443.6	448.7	460.5	463.1	462.2
37.5°	365.7	371.6	373.3	380.9	386.9	392.8	399.6	406.3	416.5	424.9	420.7
40°	319.2	321.7	325.9	329.3	341.1	341.1	344.5	358.1	369.1	375.9	375.0
42.5°	280.2	281.0	284.4	290.4	301.4	298.8	301.4	310.7	326.7	327.6	336.9
45°	253.1	252.3	254.8	255.6	262.4	265.8	267.5	274.3	287.8	289.5	290.4
47.5°	228.6	227.7	232.0	233.7	236.2	239.6	239.6	240.4	245.5	249.7	246.4
50°	208.2	208.2	208.2	209.9	214.2	213.3	214.2	217.6	220.1	218.4	217.6
52.5°	186.2	189.6	192.2	193.0	193.9	193.9	194.7	193.0	192.2	189.6	184.5
55°	171.0	174.4	174.4	174.4	174.4	177.8	173.6	174.4	174.4	167.6	160.9
57.5°	155.8	159.2	161.7	158.3	161.7	158.3	156.6	155.8	154.1	147.3	137.1
60°	143.1	144.8	143.9	143.1	144.8	142.2	140.5	137.1	135.4	126.1	119.4
62.5°	128.7	129.5	130.4	128.7	127.0	126.1	122.7	117.7	114.3	106.7	100.7
65°	116.8	114.3	113.4	112.6	110.9	108.4	105.8	99.9	97.3	90.6	84.6
67.5°	99.0	98.2	99.9	97.3	93.1	93.1	90.6	85.5	79.6	75.4	69.4
70°	84.6	83.8	82.1	79.6	78.7	75.4	75.4	69.4	67.7	60.1	55.0
72.5°	69.4	69.4	66.9	64.3	61.8	60.1	59.3	55.0	52.5	48.3	44.0
75°	52.5	52.5	51.6	49.1	47.4	45.7	44.9	41.5	38.9	34.7	32.2
77.5°	37.2	37.2	33.9	32.2	33.0	31.3	29.6	28.8	27.9	25.4	22.0
80°	22.0	21.2	18.6	19.5	18.6	18.6	17.8	16.9	15.2	13.5	11.8
82.5°	5.9	6.8	6.8	6.8	7.6	5.9	5.9	5.9	6.8	6.8	4.2
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0
2.5°	714.5	713.6	714.5	708.5	722.1	711.9	710.2	708.5	714.5	708.5	700.1
5°	729.7	721.3	718.7	716.2	723.8	711.9	709.4	710.2	706.0	695.0	695.8
7.5°	734.8	727.2	719.6	703.5	710.2	707.7	700.9	695.8	689.1	679.8	678.1
10°	736.5	728.0	717.0	711.9	701.8	698.4	695.8	687.4	678.9	662.8	658.6
12.5°	731.4	721.3	707.7	703.5	695.8	684.8	678.9	670.4	662.8	650.1	640.8
15°	709.4	700.9	696.7	682.3	678.9	672.1	660.3	648.5	637.4	620.5	615.4
17.5°	684.0	680.6	676.4	665.4	664.5	657.8	646.8	636.6	622.2	596.0	587.5
20°	657.8	657.8	644.2	640.0	648.5	634.9	626.4	617.1	587.5	574.8	559.6
22.5°	638.3	629.0	621.4	614.6	615.4	607.0	595.1	576.5	565.5	550.2	532.5
25°	600.2	603.6	586.7	584.1	586.7	567.2	561.3	546.0	529.9	515.5	502.0
27.5°	576.5	567.2	556.2	546.9	546.9	539.2	522.3	518.9	494.4	480.8	463.9
30°	540.9	534.2	524.8	511.3	509.6	503.7	490.2	481.7	456.3	436.0	426.6
32.5°	496.1	493.5	485.9	470.7	465.6	458.8	441.9	427.5	415.7	392.8	381.8
35°	463.9	454.6	438.5	425.8	421.6	409.7	396.2	386.0	373.3	353.0	338.6
37.5°	415.7	406.3	391.1	375.9	375.9	364.0	345.4	335.2	317.5	305.6	293.7
40°	373.3	361.5	346.2	328.5	325.9	309.0	301.4	284.4	273.4	254.8	253.1
42.5°	325.9	314.9	301.4	287.8	277.7	269.2	249.7	237.0	225.2	215.9	213.3
45°	282.7	268.3	256.5	239.6	229.4	219.3	206.6	198.1	188.8	178.6	172.7
47.5°	245.5	233.7	216.7	201.5	191.3	186.2	171.8	162.5	154.9	148.2	143.9
50°	207.4	193.0	183.7	166.8	165.1	153.2	141.4	133.8	129.5	123.6	117.7
52.5°	178.6	165.1	152.4	139.7	132.9	128.7	117.7	110.0	104.1	99.9	96.5
55°	150.7	138.8	128.7	116.0	111.7	105.8	93.1	91.4	85.5	79.6	75.4
57.5°	129.5	118.5	106.7	98.2	90.6	86.4	76.2	69.4	66.0	61.0	56.7
60°	110.0	98.2	88.9	78.7	75.4	69.4	61.8	55.9	51.6	47.4	43.2
62.5°	92.3	82.1	72.0	63.5	58.4	55.0	49.1	44.0	39.8	36.4	33.0
65°	76.2	66.9	58.4	49.9	47.4	43.2	38.9	34.7	31.3	27.1	23.7
67.5°	62.6	54.2	45.7	39.8	37.2	35.6	30.5	26.2	23.7	21.2	17.8
70°	49.1	43.2	36.4	31.3	28.8	26.2	22.9	20.3	16.9	15.2	12.7
72.5°	38.1	33.0	27.1	22.9	21.2	19.5	16.1	13.5	11.8	10.1	8.5
75°	27.1	22.9	19.5	15.2	14.4	13.5	11.0	9.3	7.6	5.9	5.1
77.5°	18.6	15.2	11.8	10.1	9.3	7.6	6.8	5.1	4.2	3.4	2.6
80°	10.1	7.6	5.9	5.1	4.2	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0
2.5°	705.2	695.8	698.4	698.4	696.7	696.7	695.0	692.5	693.3	688.2	677.2
5°	697.5	685.7	684.0	685.7	678.9	677.2	673.9	678.9	663.7	669.6	662.8
7.5°	675.5	664.5	662.0	667.9	659.5	654.4	653.5	660.3	646.8	640.0	632.4
10°	651.0	646.8	639.1	634.9	632.4	633.2	626.4	618.0	615.4	613.7	607.0
12.5°	629.0	619.7	612.9	607.8	606.1	606.1	595.1	593.4	585.8	584.1	574.0
15°	602.7	591.7	587.5	580.7	574.8	578.2	565.5	562.1	559.6	548.6	550.2
17.5°	579.9	568.0	557.9	553.6	548.6	543.5	531.6	534.2	528.2	528.2	513.0
20°	550.2	537.5	529.9	521.5	521.5	514.7	506.2	507.1	499.4	491.8	478.3
22.5°	518.9	505.4	496.1	492.7	484.2	482.5	472.4	469.8	459.7	460.5	448.7
25°	485.9	472.4	459.7	460.5	452.9	449.5	443.6	431.7	427.5	422.4	419.0
27.5°	447.0	437.7	426.6	425.8	411.4	412.2	404.7	401.3	391.1	393.6	386.0
30°	411.4	397.9	387.7	385.2	379.2	377.6	365.7	360.6	362.3	355.5	351.3
32.5°	375.0	354.7	350.5	345.4	342.0	337.8	329.3	332.7	325.1	326.7	320.0
35°	326.7	318.3	307.3	307.3	303.9	300.5	294.6	298.0	290.4	287.0	280.2
37.5°	286.1	278.5	267.5	270.9	265.0	259.9	254.8	255.6	248.9	248.0	241.2
40°	242.1	237.9	230.3	230.3	226.0	226.0	223.5	220.9	216.7	211.6	204.0
42.5°	200.6	197.2	193.9	194.7	188.8	193.9	187.1	191.3	177.8	176.9	171.8
45°	170.1	162.5	163.4	160.0	156.6	158.3	152.4	154.1	146.5	144.8	139.7
47.5°	138.0	135.4	130.4	128.7	128.7	126.1	123.6	122.7	119.4	115.1	108.4
50°	113.4	104.1	102.4	99.9	98.2	98.2	94.8	89.7	90.6	86.4	79.6
52.5°	88.9	81.3	77.9	77.0	73.7	72.0	67.7	64.3	61.8	60.1	55.9
55°	68.6	61.8	57.6	57.6	52.5	52.5	46.6	44.0	40.6	37.2	34.7
57.5°	51.6	48.3	44.0	40.6	38.9	34.7	31.3	27.1	24.5	19.5	16.1
60°	38.9	35.6	31.3	28.8	27.1	22.9	18.6	15.2	9.3	7.6	6.8
62.5°	28.8	25.4	21.2	19.5	17.8	14.4	10.1	5.1	2.6	2.6	2.6
65°	21.2	16.9	13.5	11.8	10.1	7.6	3.4	1.7	0.9	0.9	0.9
67.5°	14.4	11.0	7.6	6.8	5.1	2.6	0.9	0.9	0.9	0.9	0.9
70°	9.3	6.8	3.4	2.6	1.7	0.9	0.9	0.9	0.9	0.9	0.9
72.5°	5.9	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 EX4C159030 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	706.0	706.0	706.0	706.0	706.0	706.0	706.0	706.0
2.5°	689.1	683.1	686.5	678.9	682.3	688.2	684.0	685.7
5°	665.4	662.0	657.8	646.8	655.2	662.0	658.6	657.8
7.5°	640.0	628.1	634.1	630.7	629.0	635.7	628.1	636.6
10°	613.7	605.3	604.4	598.5	598.5	603.6	604.4	599.3
12.5°	574.8	570.6	570.6	569.7	568.9	574.0	574.8	572.3
15°	546.9	545.2	540.9	540.1	535.0	542.6	543.5	542.6
17.5°	513.0	513.8	509.6	509.6	513.0	515.5	508.8	515.5
20°	490.2	485.9	484.2	476.6	480.8	485.1	485.1	485.9
22.5°	457.1	450.4	452.9	448.7	446.1	452.0	452.0	454.6
25°	419.9	419.9	421.6	419.0	420.7	424.1	421.6	427.5
27.5°	384.3	387.7	387.7	384.3	386.0	396.2	400.4	393.6
30°	351.3	352.2	354.7	353.0	358.1	361.5	360.6	365.7
32.5°	314.1	318.3	320.0	317.5	319.2	326.7	322.5	321.7
35°	285.3	277.7	276.8	277.7	281.0	282.7	281.0	287.0
37.5°	243.8	241.2	237.9	238.7	241.2	244.7	246.4	250.6
40°	204.0	200.6	200.6	199.8	197.2	206.6	206.6	206.6
42.5°	169.3	168.4	164.2	164.2	167.6	170.1	168.4	174.4
45°	138.8	135.4	132.9	132.9	135.4	135.4	138.0	137.1
47.5°	109.2	105.8	106.7	104.1	106.7	110.0	105.8	106.7
50°	82.1	82.1	80.4	82.1	81.3	82.1	80.4	78.7
52.5°	55.9	63.5	64.3	61.0	53.3	46.6	42.3	45.7
55°	32.2	28.8	28.8	27.9	26.2	25.4	22.9	25.4
57.5°	16.1	14.4	14.4	14.4	13.5	12.7	11.0	11.0
60°	6.8	5.9	5.9	5.1	4.2	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)