

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

Luminaire Equipment: Sample No. Condition Description

Summary

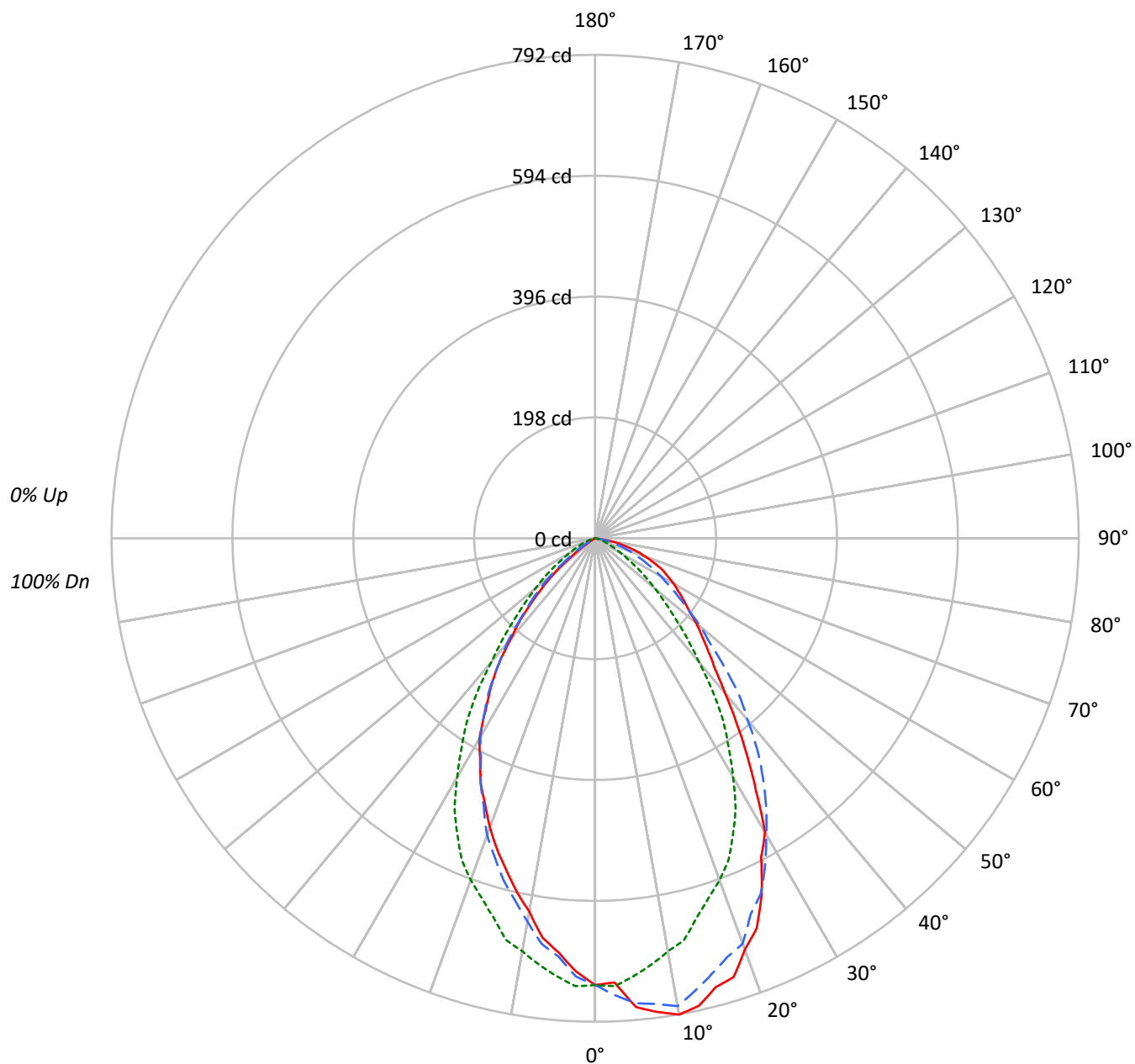
Lumens per Lamp: N/A
Luminaire Lumens: 1049.0 lumens
Efficiency: N/A
Efficacy: 66.4 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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					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	50	30	10
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°	70611	70611	70611
5°	74706	69776	66037
10°	77637	67320	60864
15°	76078	64251	56190
20°	73612	61178	51721
25°	68669	56894	47174
30°	61981	50349	42238
35°	51062	43100	35043
40°	41667	33265	26967
45°	35806	25272	19404
50°	32409	19229	12249
55°	29826	13878	4424
60°	28619	9475	675
65°	27649	6416	205
70°	24741	4457	254
75°	20281	2311	0
80°	12669	1000	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.6	6.5
10°-20°	184.7	17.6
20°-30°	246.7	23.5
30°-40°	234.2	22.3
40°-50°	161.9	15.4
50°-60°	89.4	8.5
60°-70°	44.4	4.2
70°-80°	17.5	1.7
80°-90°	1.7	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°	500.0	47.7
0°-40°	734.1	70.0
0°-60°	985.4	93.9
0°-90°	1049.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1049.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	732	732	732	732	732	
5°	771	764	720	688	682	74
15°	762	739	643	580	562	215
25°	645	642	534	443	443	294
35°	434	479	366	301	298	272
45°	262	301	185	152	142	205
55°	177	167	82	42	26	160
65°	121	88	28	1	1	118
75°	54	33	6	0	0	58
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°	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8
2.5°	728.3	748.5	750.2	748.5	751.1	750.2	754.6	750.2	755.5	747.6	749.4
5°	771.3	763.4	780.1	771.3	771.3	770.4	767.8	766.9	770.4	759.0	764.3
7.5°	782.7	794.1	809.1	790.6	791.5	791.5	786.2	784.5	784.5	763.4	769.6
10°	792.4	785.3	793.2	786.2	792.4	791.5	795.0	783.6	791.5	779.2	778.3
12.5°	784.5	781.8	792.4	781.0	777.5	778.3	774.0	771.3	774.0	759.9	759.0
15°	761.6	764.3	780.1	767.8	766.0	764.3	759.0	750.2	757.3	738.0	738.9
17.5°	753.8	749.4	752.0	741.5	744.1	742.4	741.5	733.6	731.8	719.5	719.5
20°	716.9	726.5	726.5	719.5	719.5	718.7	707.3	714.3	706.4	702.9	706.4
22.5°	691.4	692.3	692.3	686.2	687.1	683.6	677.4	673.0	677.4	673.0	666.0
25°	645.0	646.7	657.2	645.8	644.1	647.6	642.3	639.7	638.8	628.3	642.3
27.5°	588.8	606.3	605.5	601.1	606.3	599.3	596.7	597.6	600.2	599.3	602.8
30°	556.3	559.0	561.6	558.1	559.0	556.3	556.3	557.2	564.2	561.6	560.7
32.5°	490.5	499.3	506.3	506.3	507.2	509.8	508.9	527.4	531.8	523.0	521.2
35°	433.5	439.6	445.7	446.6	458.1	458.9	459.8	465.1	477.3	480.0	479.1
37.5°	379.1	385.2	387.0	394.9	401.0	407.1	414.2	421.2	431.7	440.5	436.1
40°	330.8	333.4	337.8	341.3	353.6	353.6	357.1	371.2	382.6	389.6	388.7
42.5°	290.5	291.3	294.8	301.0	312.4	309.7	312.4	322.1	338.7	339.6	349.2
45°	262.4	261.5	264.1	265.0	272.0	275.5	277.3	284.3	298.3	300.1	301.0
47.5°	236.9	236.0	240.4	242.2	244.8	248.3	248.3	249.2	254.5	258.9	255.4
50°	215.9	215.9	215.9	217.6	222.0	221.1	222.0	225.5	228.1	226.4	225.5
52.5°	193.0	196.5	199.2	200.1	200.9	200.9	201.8	200.1	199.2	196.5	191.3
55°	177.3	180.8	180.8	180.8	180.8	184.3	179.9	180.8	180.8	173.7	166.7
57.5°	161.5	165.0	167.6	164.1	167.6	164.1	162.3	161.5	159.7	152.7	142.2
60°	148.3	150.1	149.2	148.3	150.1	147.4	145.7	142.2	140.4	130.7	123.7
62.5°	133.4	134.2	135.1	133.4	131.6	130.7	127.2	122.0	118.5	110.6	104.4
65°	121.1	118.5	117.6	116.7	115.0	112.3	109.7	103.5	100.9	93.9	87.7
67.5°	102.7	101.8	103.5	100.9	96.5	96.5	93.9	88.6	82.5	78.1	72.0
70°	87.7	86.9	85.1	82.5	81.6	78.1	78.1	72.0	70.2	62.3	57.0
72.5°	72.0	72.0	69.3	66.7	64.0	62.3	61.4	57.0	54.4	50.0	45.6
75°	54.4	54.4	53.5	50.9	49.1	47.4	46.5	43.0	40.4	36.0	33.3
77.5°	38.6	38.6	35.1	33.3	34.2	32.5	30.7	29.8	28.9	26.3	22.8
80°	22.8	21.9	19.3	20.2	19.3	19.3	18.4	17.5	15.8	14.0	12.3
82.5°	6.2	7.0	7.0	7.0	7.9	6.2	6.2	6.2	7.0	7.0	4.4
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	1.8	3.5	3.5	3.5	3.5	3.5	2.6	2.6	2.6	1.8
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°	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8
2.5°	740.6	739.7	740.6	734.5	748.5	738.0	736.2	734.5	740.6	734.5	725.7
5°	756.4	747.6	745.0	742.4	750.2	738.0	735.3	736.2	731.8	720.4	721.3
7.5°	761.6	753.8	745.9	729.2	736.2	733.6	726.5	721.3	714.3	704.6	702.9
10°	763.4	754.6	743.2	738.0	727.4	723.9	721.3	712.5	703.8	687.1	682.7
12.5°	758.1	747.6	733.6	729.2	721.3	709.9	703.8	695.0	687.1	673.9	664.3
15°	735.3	726.5	722.2	707.3	703.8	696.7	684.4	672.2	660.7	643.2	637.9
17.5°	709.0	705.5	701.1	689.7	688.8	681.8	670.4	659.9	645.0	617.7	609.0
20°	681.8	681.8	667.8	663.4	672.2	658.1	649.3	639.7	609.0	595.8	580.0
22.5°	661.6	652.0	644.1	637.1	637.9	629.2	616.9	597.6	586.1	570.4	551.9
25°	622.1	625.6	608.1	605.5	608.1	587.9	581.8	566.0	549.3	534.4	520.3
27.5°	597.6	587.9	576.5	566.9	566.9	559.0	541.4	537.9	512.4	498.4	480.8
30°	560.7	553.7	544.0	530.0	528.3	522.1	508.1	499.3	473.0	451.9	442.2
32.5°	514.2	511.6	503.7	487.9	482.6	475.6	458.1	443.1	430.9	407.1	395.8
35°	480.8	471.2	454.5	441.4	437.0	424.7	410.6	400.1	387.0	365.9	351.0
37.5°	430.9	421.2	405.4	389.6	389.6	377.3	358.0	347.5	329.1	316.8	304.5
40°	387.0	374.7	358.9	340.5	337.8	320.3	312.4	294.8	283.4	264.1	262.4
42.5°	337.8	326.4	312.4	298.3	287.8	279.0	258.9	245.7	233.4	223.8	221.1
45°	293.1	278.2	265.9	248.3	237.8	227.3	214.1	205.3	195.7	185.2	179.0
47.5°	254.5	242.2	224.6	208.8	198.3	193.0	178.1	168.5	160.6	153.6	149.2
50°	215.0	200.1	190.4	172.9	171.1	158.8	146.6	138.6	134.2	128.1	122.0
52.5°	185.2	171.1	157.9	144.8	137.8	133.4	122.0	114.1	107.9	103.5	100.0
55°	156.2	143.9	133.4	120.2	115.8	109.7	96.5	94.8	88.6	82.5	78.1
57.5°	134.2	122.8	110.6	101.8	93.9	89.5	79.0	72.0	68.4	63.2	58.8
60°	114.1	101.8	92.1	81.6	78.1	72.0	64.0	57.9	53.5	49.1	44.8
62.5°	95.6	85.1	74.6	65.8	60.5	57.0	50.9	45.6	41.3	37.7	34.2
65°	79.0	69.3	60.5	51.8	49.1	44.8	40.4	36.0	32.5	28.1	24.6
67.5°	64.9	56.2	47.4	41.3	38.6	36.9	31.6	27.2	24.6	21.9	18.4
70°	50.9	44.8	37.7	32.5	29.8	27.2	23.7	21.1	17.5	15.8	13.2
72.5°	39.5	34.2	28.1	23.7	21.9	20.2	16.7	14.0	12.3	10.5	8.8
75°	28.1	23.7	20.2	15.8	14.9	14.0	11.4	9.7	7.9	6.2	5.3
77.5°	19.3	15.8	12.3	10.5	9.7	7.9	7.0	5.3	4.4	3.5	2.6
80°	10.5	7.9	6.2	5.3	4.4	3.5	3.5	2.6	1.8	1.8	0.9
82.5°	3.5	2.6	1.8	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 EX4C159050 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8
2.5°	730.9	721.3	723.9	723.9	722.2	722.2	720.4	717.8	718.7	713.4	702.0
5°	723.0	710.8	709.0	710.8	703.8	702.0	698.5	703.8	687.9	694.1	687.1
7.5°	700.2	688.8	686.2	692.3	683.6	678.3	677.4	684.4	670.4	663.4	655.5
10°	674.8	670.4	662.5	658.1	655.5	656.3	649.3	640.6	637.9	636.2	629.2
12.5°	652.0	642.3	635.3	630.0	628.3	628.3	616.9	615.1	607.2	605.5	594.9
15°	624.8	613.4	609.0	602.0	595.8	599.3	586.1	582.6	580.0	568.6	570.4
17.5°	601.1	588.8	578.3	573.9	568.6	563.4	551.0	553.7	547.5	547.5	531.8
20°	570.4	557.2	549.3	540.5	540.5	533.5	524.7	525.6	517.7	509.8	495.8
22.5°	537.9	523.9	514.2	510.7	501.9	500.2	489.6	487.0	476.5	477.3	465.1
25°	503.7	489.6	476.5	477.3	469.5	466.0	459.8	447.5	443.1	437.9	434.4
27.5°	463.3	453.7	442.2	441.4	426.5	427.3	419.4	415.9	405.4	408.0	400.1
30°	426.5	412.4	401.9	399.3	393.1	391.4	379.1	373.8	375.6	368.5	364.2
32.5°	388.7	367.7	363.3	358.0	354.5	350.1	341.3	344.8	336.9	338.7	331.7
35°	338.7	329.9	318.5	318.5	315.0	311.5	305.4	308.9	301.0	297.5	290.5
37.5°	296.6	288.7	277.3	280.8	274.6	269.4	264.1	265.0	258.0	257.1	250.1
40°	251.0	246.6	238.7	238.7	234.3	234.3	231.6	229.0	224.6	219.4	211.5
42.5°	208.0	204.4	200.9	201.8	195.7	200.9	193.9	198.3	184.3	183.4	178.1
45°	176.4	168.5	169.3	165.8	162.3	164.1	157.9	159.7	151.8	150.1	144.8
47.5°	143.0	140.4	135.1	133.4	133.4	130.7	128.1	127.2	123.7	119.3	112.3
50°	117.6	107.9	106.2	103.5	101.8	101.8	98.3	93.0	93.9	89.5	82.5
52.5°	92.1	84.2	80.7	79.9	76.4	74.6	70.2	66.7	64.0	62.3	57.9
55°	71.1	64.0	59.7	59.7	54.4	54.4	48.3	45.6	42.1	38.6	36.0
57.5°	53.5	50.0	45.6	42.1	40.4	36.0	32.5	28.1	25.4	20.2	16.7
60°	40.4	36.9	32.5	29.8	28.1	23.7	19.3	15.8	9.7	7.9	7.0
62.5°	29.8	26.3	21.9	20.2	18.4	14.9	10.5	5.3	2.6	2.6	2.6
65°	21.9	17.5	14.0	12.3	10.5	7.9	3.5	1.8	0.9	0.9	0.9
67.5°	14.9	11.4	7.9	7.0	5.3	2.6	0.9	0.9	0.9	0.9	0.9
70°	9.7	7.0	3.5	2.6	1.8	0.9	0.9	0.9	0.9	0.9	0.9
72.5°	6.2	3.5	1.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	3.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.8	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 EX4C159050 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	731.8	731.8	731.8	731.8	731.8	731.8	731.8	731.8
2.5°	714.3	708.1	711.6	703.8	707.3	713.4	709.0	710.8
5°	689.7	686.2	681.8	670.4	679.2	686.2	682.7	681.8
7.5°	663.4	651.1	657.2	653.7	652.0	659.0	651.1	659.9
10°	636.2	627.4	626.5	620.4	620.4	625.6	626.5	621.2
12.5°	595.8	591.4	591.4	590.5	589.7	594.9	595.8	593.2
15°	566.9	565.1	560.7	559.8	554.6	562.5	563.4	562.5
17.5°	531.8	532.6	528.3	528.3	531.8	534.4	527.4	534.4
20°	508.1	503.7	501.9	494.0	498.4	502.8	502.8	503.7
22.5°	473.8	466.8	469.5	465.1	462.4	468.6	468.6	471.2
25°	435.2	435.2	437.0	434.4	436.1	439.6	437.0	443.1
27.5°	398.4	401.9	401.9	398.4	400.1	410.6	415.0	408.0
30°	364.2	365.0	367.7	365.9	371.2	374.7	373.8	379.1
32.5°	325.6	329.9	331.7	329.1	330.8	338.7	334.3	333.4
35°	295.7	287.8	287.0	287.8	291.3	293.1	291.3	297.5
37.5°	252.7	250.1	246.6	247.5	250.1	253.6	255.4	259.7
40°	211.5	208.0	208.0	207.1	204.4	214.1	214.1	214.1
42.5°	175.5	174.6	170.2	170.2	173.7	176.4	174.6	180.8
45°	143.9	140.4	137.8	137.8	140.4	140.4	143.0	142.2
47.5°	113.2	109.7	110.6	107.9	110.6	114.1	109.7	110.6
50°	85.1	85.1	83.4	85.1	84.2	85.1	83.4	81.6
52.5°	57.9	65.8	66.7	63.2	55.3	48.3	43.9	47.4
55°	33.3	29.8	29.8	28.9	27.2	26.3	23.7	26.3
57.5°	16.7	14.9	14.9	14.9	14.0	13.2	11.4	11.4
60°	7.0	6.2	6.2	5.3	4.4	3.5	2.6	3.5
62.5°	2.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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)