

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: **LD4C10D010 EX4C109027 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: LD4C10D010 EX4C109027 4LBSQLWWLI
Description: 4 INCH 1000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

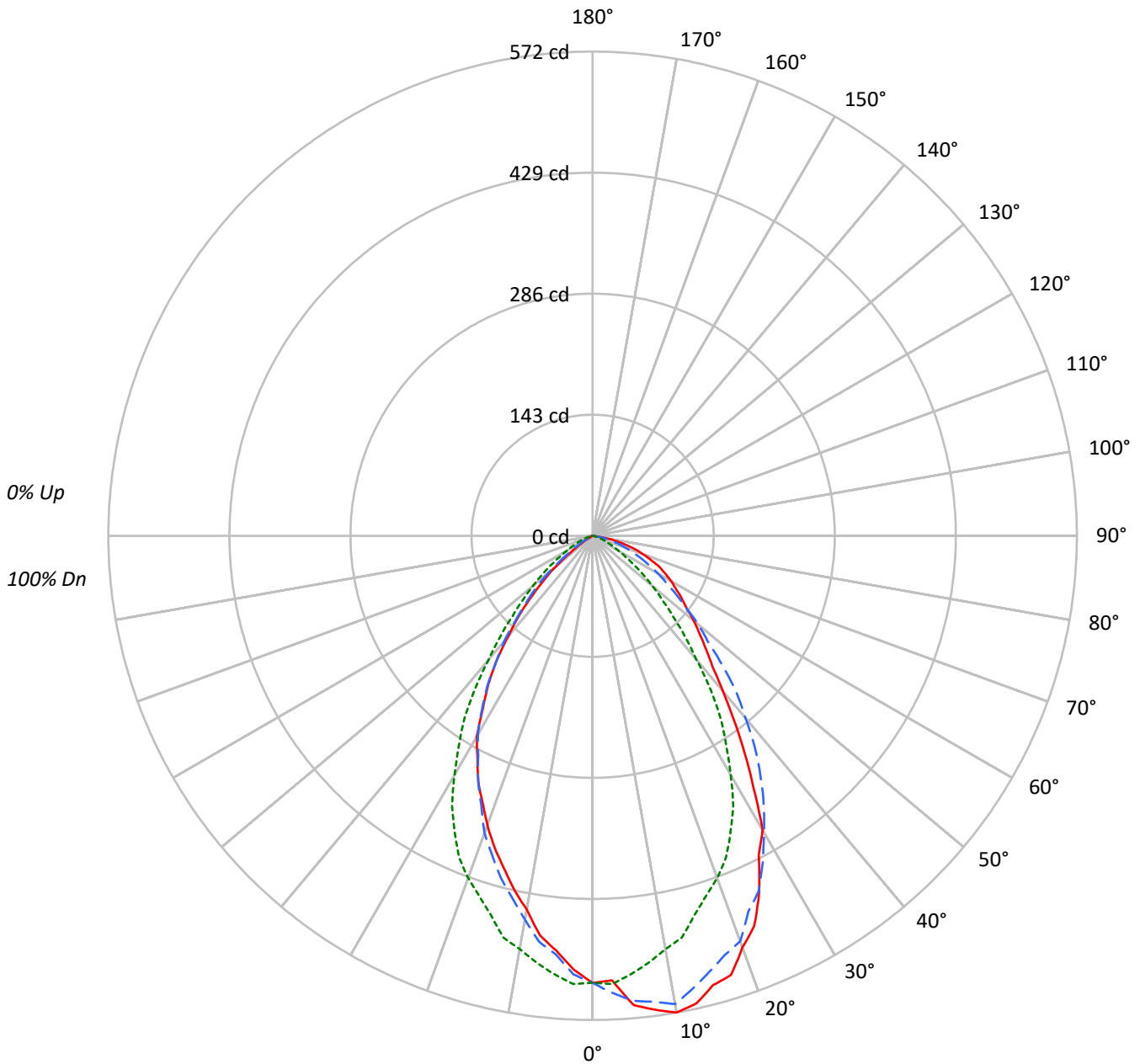
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 757.0 lumens
Efficiency: N/A
Efficacy: 77.2 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): 9.8
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°	50956	50956	50956
5°	53911	50356	47654
10°	56023	48577	43923
15°	54901	46360	40546
20°	53127	44153	37325
25°	49548	41052	34047
30°	44733	36333	30483
35°	36845	31109	25290
40°	30066	24007	19460
45°	25831	18231	14000
50°	23387	13885	8841
55°	21516	10009	3196
60°	20649	6851	482
65°	19954	4635	137
70°	17858	3216	169
75°	14651	1640	0
80°	9168	722	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.5	6.5
10°-20°	133.3	17.6
20°-30°	178.0	23.5
30°-40°	169.0	22.3
40°-50°	116.8	15.4
50°-60°	64.5	8.5
60°-70°	32.0	4.2
70°-80°	12.6	1.7
80°-90°	1.2	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°	360.8	47.7
0°-40°	529.8	70.0
0°-60°	711.1	93.9
0°-90°	757.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	757.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	528	528	528	528	528	
5°	557	552	520	496	492	53
15°	550	533	464	419	406	155
25°	465	464	386	320	320	212
35°	313	346	264	217	215	196
45°	189	217	134	110	103	148
55°	128	120	60	30	19	115
65°	87	63	20	1	1	85
75°	39	24	4	0	0	42
85°	0	1	0	0	0	4
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°	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1
2.5°	525.6	540.1	541.4	540.1	542.0	541.4	544.6	541.4	545.2	539.5	540.8
5°	556.6	550.9	562.9	556.6	556.6	556.0	554.1	553.4	556.0	547.7	551.5
7.5°	564.8	573.1	583.8	570.5	571.2	571.2	567.4	566.1	566.1	550.9	555.3
10°	571.8	566.7	572.4	567.4	571.8	571.2	573.7	565.5	571.2	562.3	561.7
12.5°	566.1	564.2	571.8	563.6	561.0	561.7	558.5	556.6	558.5	548.4	547.7
15°	549.6	551.5	562.9	554.1	552.8	551.5	547.7	541.4	546.5	532.5	533.2
17.5°	544.0	540.8	542.7	535.1	537.0	535.7	535.1	529.4	528.1	519.2	519.2
20°	517.4	524.3	524.3	519.2	519.2	518.6	510.4	515.4	509.7	507.2	509.7
22.5°	499.0	499.6	499.6	495.2	495.8	493.3	488.9	485.7	488.9	485.7	480.6
25°	465.4	466.7	474.3	466.1	464.8	467.3	463.5	461.6	461.0	453.4	463.5
27.5°	424.9	437.5	436.9	433.8	437.5	432.5	430.6	431.2	433.1	432.5	435.0
30°	401.5	403.4	405.3	402.7	403.4	401.5	401.5	402.1	407.2	405.3	404.6
32.5°	354.0	360.3	365.4	365.4	366.0	367.9	367.3	380.6	383.7	377.4	376.1
35°	312.8	317.3	321.7	322.3	330.5	331.2	331.8	335.6	344.5	346.4	345.7
37.5°	273.6	278.0	279.2	285.0	289.4	293.8	298.9	304.0	311.5	317.9	314.7
40°	238.7	240.6	243.8	246.3	255.2	255.2	257.7	267.9	276.1	281.2	280.5
42.5°	209.6	210.2	212.8	217.2	225.4	223.5	225.4	232.4	244.4	245.1	252.0
45°	189.3	188.7	190.6	191.2	196.3	198.8	200.1	205.2	215.3	216.6	217.2
47.5°	171.0	170.3	173.5	174.8	176.7	179.2	179.2	179.8	183.6	186.8	184.3
50°	155.8	155.8	155.8	157.0	160.2	159.6	160.2	162.7	164.6	163.4	162.7
52.5°	139.3	141.8	143.7	144.4	145.0	145.0	145.7	144.4	143.7	141.8	138.0
55°	127.9	130.4	130.4	130.4	130.4	133.0	129.8	130.4	130.4	125.4	120.3
57.5°	116.5	119.1	120.9	118.4	120.9	118.4	117.1	116.5	115.2	110.2	102.6
60°	107.0	108.3	107.6	107.0	108.3	106.4	105.1	102.6	101.3	94.3	89.3
62.5°	96.3	96.9	97.5	96.3	95.0	94.3	91.8	88.0	85.5	79.8	75.3
65°	87.4	85.5	84.8	84.2	83.0	81.0	79.2	74.7	72.8	67.8	63.3
67.5°	74.1	73.5	74.7	72.8	69.7	69.7	67.8	64.0	59.5	56.4	51.9
70°	63.3	62.7	61.4	59.5	58.9	56.4	56.4	51.9	50.7	45.0	41.2
72.5°	51.9	51.9	50.0	48.1	46.2	45.0	44.3	41.2	39.3	36.1	32.9
75°	39.3	39.3	38.6	36.7	35.5	34.2	33.6	31.0	29.1	26.0	24.1
77.5°	27.9	27.9	25.3	24.1	24.7	23.4	22.2	21.5	20.9	19.0	16.5
80°	16.5	15.8	13.9	14.6	13.9	13.9	13.3	12.7	11.4	10.1	8.9
82.5°	4.4	5.1	5.1	5.1	5.7	4.4	4.4	4.4	5.1	5.1	3.2
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
87.5°	0.6	1.3	2.5	2.5	2.5	2.5	2.5	1.9	1.9	1.9	1.3
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°	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1
2.5°	534.5	533.8	534.5	530.0	540.1	532.5	531.3	530.0	534.5	530.0	523.7
5°	545.8	539.5	537.6	535.7	541.4	532.5	530.7	531.3	528.1	519.9	520.5
7.5°	549.6	544.0	538.2	526.2	531.3	529.4	524.3	520.5	515.4	508.5	507.2
10°	550.9	544.6	536.3	532.5	524.9	522.4	520.5	514.2	507.9	495.8	492.6
12.5°	547.1	539.5	529.4	526.2	520.5	512.3	507.9	501.5	495.8	486.3	479.4
15°	530.7	524.3	521.2	510.4	507.9	502.8	493.9	485.1	476.8	464.1	460.3
17.5°	511.7	509.1	505.9	497.7	497.1	492.0	483.8	476.2	465.4	445.8	439.5
20°	492.0	492.0	481.9	478.7	485.1	474.9	468.6	461.6	439.5	430.0	418.6
22.5°	477.5	470.5	464.8	459.7	460.3	454.0	445.2	431.2	423.0	411.6	398.3
25°	449.0	451.5	438.8	436.9	438.8	424.3	419.8	408.4	396.4	385.6	375.5
27.5°	431.2	424.3	416.0	409.1	409.1	403.4	390.7	388.2	369.8	359.7	347.0
30°	404.6	399.6	392.6	382.5	381.2	376.8	366.6	360.3	341.3	326.1	319.1
32.5°	371.1	369.2	363.5	352.1	348.3	343.2	330.5	319.8	310.9	293.8	285.6
35°	347.0	340.1	328.0	318.5	315.3	306.5	296.3	288.7	279.2	264.1	253.3
37.5°	310.9	304.0	292.5	281.2	281.2	272.3	258.4	250.8	237.5	228.6	219.7
40°	279.2	270.4	259.0	245.7	243.8	231.1	225.4	212.8	204.5	190.6	189.3
42.5°	243.8	235.6	225.4	215.3	207.7	201.4	186.8	177.3	168.5	161.5	159.6
45°	211.5	200.7	191.9	179.2	171.6	164.0	154.5	148.2	141.2	133.6	129.2
47.5°	183.6	174.8	162.1	150.7	143.1	139.3	128.5	121.6	115.9	110.8	107.6
50°	155.2	144.4	137.4	124.7	123.5	114.6	105.8	100.1	96.9	92.5	88.0
52.5°	133.6	123.5	114.0	104.5	99.4	96.3	88.0	82.3	77.9	74.7	72.2
55°	112.7	103.8	96.3	86.8	83.6	79.2	69.7	68.4	64.0	59.5	56.4
57.5°	96.9	88.6	79.8	73.5	67.8	64.6	57.0	51.9	49.4	45.6	42.4
60°	82.3	73.5	66.5	58.9	56.4	51.9	46.2	41.8	38.6	35.5	32.3
62.5°	69.0	61.4	53.8	47.5	43.7	41.2	36.7	32.9	29.8	27.2	24.7
65°	57.0	50.0	43.7	37.4	35.5	32.3	29.1	26.0	23.4	20.3	17.7
67.5°	46.9	40.5	34.2	29.8	27.9	26.6	22.8	19.6	17.7	15.8	13.3
70°	36.7	32.3	27.2	23.4	21.5	19.6	17.1	15.2	12.7	11.4	9.5
72.5°	28.5	24.7	20.3	17.1	15.8	14.6	12.0	10.1	8.9	7.6	6.3
75°	20.3	17.1	14.6	11.4	10.8	10.1	8.2	7.0	5.7	4.4	3.8
77.5°	13.9	11.4	8.9	7.6	7.0	5.7	5.1	3.8	3.2	2.5	1.9
80°	7.6	5.7	4.4	3.8	3.2	2.5	2.5	1.9	1.3	1.3	0.6
82.5°	2.5	1.9	1.3	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.6
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°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	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°	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1
2.5°	527.5	520.5	522.4	522.4	521.2	521.2	519.9	518.0	518.6	514.8	506.6
5°	521.8	512.9	511.7	512.9	507.9	506.6	504.1	507.9	496.4	500.9	495.8
7.5°	505.3	497.1	495.2	499.6	493.3	489.5	488.9	493.9	483.8	478.7	473.0
10°	486.9	483.8	478.1	474.9	473.0	473.6	468.6	462.3	460.3	459.1	454.0
12.5°	470.5	463.5	458.5	454.7	453.4	453.4	445.2	443.9	438.2	436.9	429.3
15°	450.8	442.6	439.5	434.4	430.0	432.5	423.0	420.5	418.6	410.3	411.6
17.5°	433.8	424.9	417.3	414.1	410.3	406.5	397.7	399.6	395.1	395.1	383.7
20°	411.6	402.1	396.4	390.1	390.1	385.0	378.7	379.3	373.6	367.9	357.8
22.5°	388.2	378.0	371.1	368.5	362.2	360.9	353.3	351.4	343.8	344.5	335.6
25°	363.5	353.3	343.8	344.5	338.8	336.3	331.8	323.0	319.8	316.0	313.5
27.5°	334.3	327.4	319.1	318.5	307.8	308.4	302.7	300.2	292.5	294.5	288.7
30°	307.8	297.6	290.0	288.1	283.7	282.4	273.6	269.7	271.0	265.9	262.8
32.5°	280.5	265.3	262.2	258.4	255.8	252.7	246.3	248.9	243.1	244.4	239.4
35°	244.4	238.1	229.9	229.9	227.3	224.8	220.4	222.9	217.2	214.7	209.6
37.5°	214.0	208.3	200.1	202.6	198.2	194.4	190.6	191.2	186.2	185.5	180.5
40°	181.1	177.9	172.2	172.2	169.1	169.1	167.2	165.3	162.1	158.3	152.6
42.5°	150.1	147.5	145.0	145.7	141.2	145.0	139.9	143.1	133.0	132.4	128.5
45°	127.3	121.6	122.2	119.7	117.1	118.4	114.0	115.2	109.6	108.3	104.5
47.5°	103.2	101.3	97.5	96.3	96.3	94.3	92.5	91.8	89.3	86.1	81.0
50°	84.8	77.9	76.6	74.7	73.5	73.5	70.9	67.1	67.8	64.6	59.5
52.5°	66.5	60.8	58.3	57.6	55.1	53.8	50.7	48.1	46.2	45.0	41.8
55°	51.3	46.2	43.1	43.1	39.3	39.3	34.8	32.9	30.4	27.9	26.0
57.5°	38.6	36.1	32.9	30.4	29.1	26.0	23.4	20.3	18.4	14.6	12.0
60°	29.1	26.6	23.4	21.5	20.3	17.1	13.9	11.4	7.0	5.7	5.1
62.5°	21.5	19.0	15.8	14.6	13.3	10.8	7.6	3.8	1.9	1.9	1.9
65°	15.8	12.7	10.1	8.9	7.6	5.7	2.5	1.3	0.6	0.6	0.6
67.5°	10.8	8.2	5.7	5.1	3.8	1.9	0.6	0.6	0.6	0.6	0.6
70°	7.0	5.1	2.5	1.9	1.3	0.6	0.6	0.6	0.6	0.6	0.6
72.5°	4.4	2.5	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	2.5	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.6	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	0.6	0.6	0.6
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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	528.1	528.1	528.1	528.1	528.1	528.1	528.1	528.1
2.5°	515.4	511.0	513.5	507.9	510.4	514.8	511.7	512.9
5°	497.7	495.2	492.0	483.8	490.1	495.2	492.6	492.0
7.5°	478.7	469.8	474.3	471.8	470.5	475.6	469.8	476.2
10°	459.1	452.8	452.1	447.7	447.7	451.5	452.1	448.3
12.5°	430.0	426.8	426.8	426.2	425.5	429.3	430.0	428.1
15°	409.1	407.8	404.6	404.0	400.2	405.9	406.5	405.9
17.5°	383.7	384.4	381.2	381.2	383.7	385.6	380.6	385.6
20°	366.6	363.5	362.2	356.5	359.7	362.9	362.9	363.5
22.5°	341.9	336.9	338.8	335.6	333.7	338.1	338.1	340.1
25°	314.1	314.1	315.3	313.5	314.7	317.3	315.3	319.8
27.5°	287.5	290.0	290.0	287.5	288.7	296.3	299.5	294.5
30°	262.8	263.4	265.3	264.1	267.9	270.4	269.7	273.6
32.5°	234.9	238.1	239.4	237.5	238.7	244.4	241.3	240.6
35°	213.4	207.7	207.1	207.7	210.2	211.5	210.2	214.7
37.5°	182.4	180.5	177.9	178.6	180.5	183.0	184.3	187.4
40°	152.6	150.1	150.1	149.4	147.5	154.5	154.5	154.5
42.5°	126.6	126.0	122.9	122.9	125.4	127.3	126.0	130.4
45°	103.8	101.3	99.4	99.4	101.3	101.3	103.2	102.6
47.5°	81.7	79.2	79.8	77.9	79.8	82.3	79.2	79.8
50°	61.4	61.4	60.2	61.4	60.8	61.4	60.2	58.9
52.5°	41.8	47.5	48.1	45.6	39.9	34.8	31.7	34.2
55°	24.1	21.5	21.5	20.9	19.6	19.0	17.1	19.0
57.5°	12.0	10.8	10.8	10.8	10.1	9.5	8.2	8.2
60°	5.1	4.4	4.4	3.8	3.2	2.5	1.9	2.5
62.5°	1.9	1.3	1.3	1.3	1.3	1.3	1.3	1.3
65°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
67.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
70°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)