

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 EX4C109050 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: LD4C10D010 EX4C109050 4LBSQLWWH
Description: 4 INCH 1000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

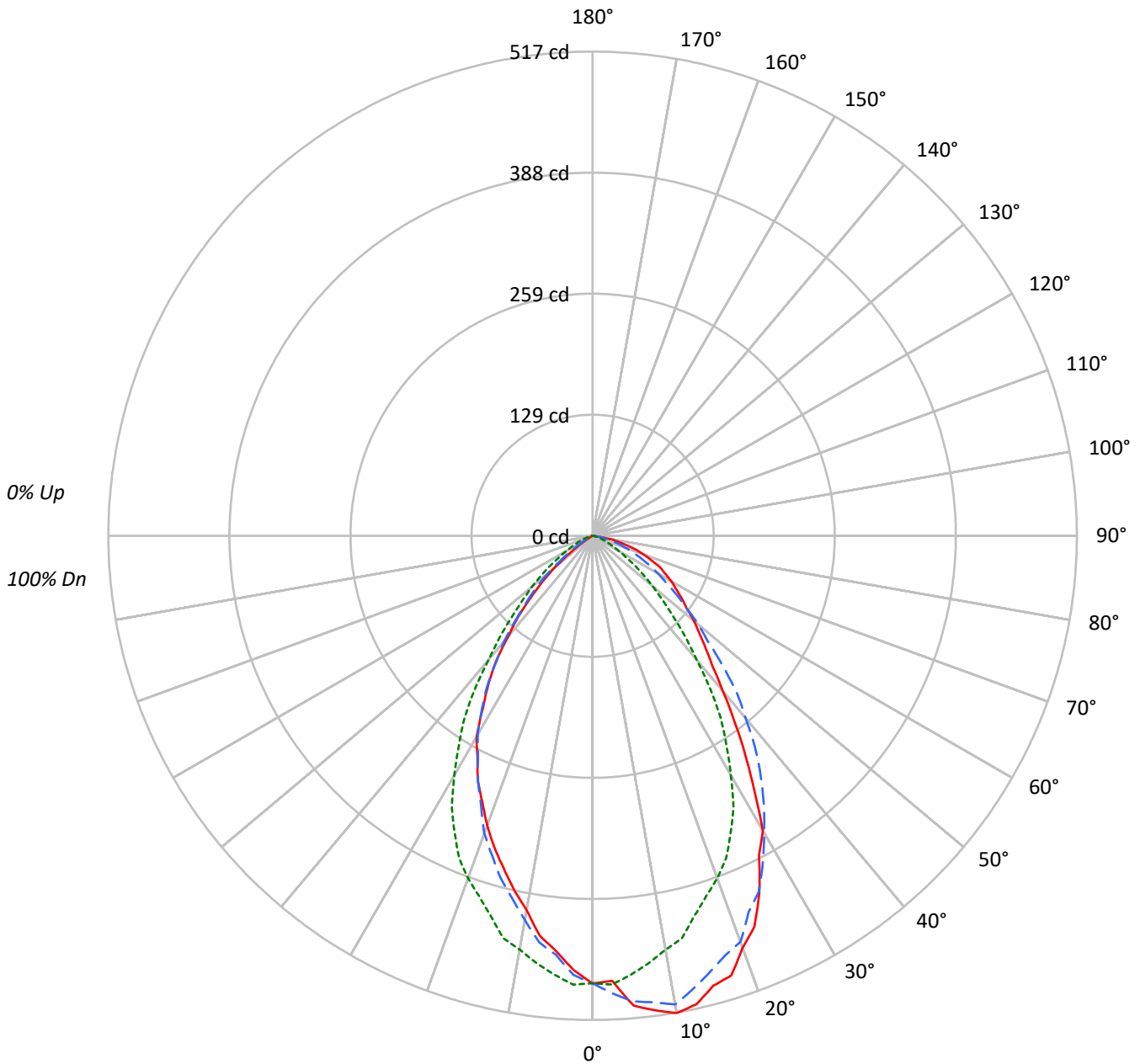
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 685.0 lumens
Efficiency: N/A
Efficacy: 69.9 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°	46112	46112	46112
5°	48787	45562	43121
10°	50694	43962	39749
15°	49687	41955	36691
20°	48075	39953	33772
25°	44843	37145	30811
30°	40477	32879	27575
35°	33347	28140	22887
40°	27207	21728	17609
45°	23375	16498	12663
50°	21166	12564	8001
55°	19463	9067	2893
60°	18680	6195	444
65°	18059	4178	137
70°	16165	2906	169
75°	13235	1491	0
80°	8279	611	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.8	6.5
10°-20°	120.6	17.6
20°-30°	161.1	23.5
30°-40°	152.9	22.3
40°-50°	105.7	15.4
50°-60°	58.4	8.5
60°-70°	29.0	4.2
70°-80°	11.4	1.7
80°-90°	1.1	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°	326.5	47.7
0°-40°	479.4	70.0
0°-60°	643.5	93.9
0°-90°	685.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	685.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	478	478	478	478	478	
5°	504	499	470	449	445	48
15°	497	482	420	379	367	141
25°	421	419	349	289	289	192
35°	283	313	239	196	194	177
45°	171	196	121	99	93	134
55°	116	109	54	28	17	104
65°	79	57	18	1	1	77
75°	36	22	4	0	0	38
85°	0	1	0	0	0	3
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°	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9
2.5°	475.6	488.8	489.9	488.8	490.5	489.9	492.8	489.9	493.4	488.2	489.3
5°	503.7	498.5	509.4	503.7	503.7	503.1	501.4	500.8	503.1	495.7	499.1
7.5°	511.1	518.6	528.3	516.3	516.8	516.8	513.4	512.3	512.3	498.5	502.5
10°	517.4	512.8	518.0	513.4	517.4	516.8	519.1	511.7	516.8	508.8	508.2
12.5°	512.3	510.5	517.4	510.0	507.7	508.2	505.4	503.7	505.4	496.2	495.7
15°	497.4	499.1	509.4	501.4	500.2	499.1	495.7	489.9	494.5	481.9	482.5
17.5°	492.2	489.3	491.1	484.2	485.9	484.8	484.2	479.0	477.9	469.9	469.9
20°	468.2	474.4	474.4	469.9	469.9	469.3	461.8	466.4	461.3	459.0	461.3
22.5°	451.5	452.1	452.1	448.1	448.7	446.4	442.4	439.5	442.4	439.5	434.9
25°	421.2	422.3	429.2	421.7	420.6	422.9	419.4	417.7	417.1	410.3	419.4
27.5°	384.5	395.9	395.4	392.5	395.9	391.4	389.6	390.2	391.9	391.4	393.6
30°	363.3	365.0	366.7	364.4	365.0	363.3	363.3	363.9	368.4	366.7	366.1
32.5°	320.3	326.0	330.6	330.6	331.2	332.9	332.3	344.4	347.2	341.5	340.4
35°	283.1	287.1	291.1	291.7	299.1	299.7	300.3	303.7	311.7	313.4	312.8
37.5°	247.5	251.5	252.7	257.8	261.9	265.9	270.5	275.0	281.9	287.6	284.8
40°	216.0	217.7	220.6	222.9	230.9	230.9	233.2	242.4	249.8	254.4	253.8
42.5°	189.7	190.2	192.5	196.5	204.0	202.3	204.0	210.3	221.2	221.8	228.1
45°	171.3	170.7	172.5	173.0	177.6	179.9	181.1	185.7	194.8	196.0	196.5
47.5°	154.7	154.1	157.0	158.2	159.9	162.1	162.1	162.7	166.2	169.0	166.8
50°	141.0	141.0	141.0	142.1	145.0	144.4	145.0	147.3	149.0	147.8	147.3
52.5°	126.1	128.3	130.1	130.7	131.2	131.2	131.8	130.7	130.1	128.3	124.9
55°	115.7	118.0	118.0	118.0	118.0	120.3	117.5	118.0	118.0	113.5	108.9
57.5°	105.4	107.7	109.4	107.1	109.4	107.1	106.0	105.4	104.3	99.7	92.8
60°	96.8	98.0	97.4	96.8	98.0	96.3	95.1	92.8	91.7	85.4	80.8
62.5°	87.1	87.7	88.2	87.1	86.0	85.4	83.1	79.6	77.4	72.2	68.2
65°	79.1	77.4	76.8	76.2	75.1	73.3	71.6	67.6	65.9	61.3	57.3
67.5°	67.0	66.5	67.6	65.9	63.0	63.0	61.3	57.9	53.9	51.0	47.0
70°	57.3	56.7	55.6	53.9	53.3	51.0	51.0	47.0	45.8	40.7	37.2
72.5°	47.0	47.0	45.3	43.6	41.8	40.7	40.1	37.2	35.5	32.7	29.8
75°	35.5	35.5	35.0	33.2	32.1	30.9	30.4	28.1	26.4	23.5	21.8
77.5°	25.2	25.2	22.9	21.8	22.3	21.2	20.0	19.5	18.9	17.2	14.9
80°	14.9	14.3	12.6	13.2	12.6	12.6	12.0	11.4	10.3	9.2	8.0
82.5°	4.0	4.6	4.6	4.6	5.2	4.0	4.0	4.0	4.6	4.6	2.9
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	1.1	2.3	2.3	2.3	2.3	2.3	1.7	1.7	1.7	1.1
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°	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9
2.5°	483.6	483.0	483.6	479.6	488.8	481.9	480.7	479.6	483.6	479.6	473.9
5°	493.9	488.2	486.5	484.8	489.9	481.9	480.2	480.7	477.9	470.4	471.0
7.5°	497.4	492.2	487.1	476.2	480.7	479.0	474.4	471.0	466.4	460.1	459.0
10°	498.5	492.8	485.3	481.9	475.0	472.7	471.0	465.3	459.6	448.7	445.8
12.5°	495.1	488.2	479.0	476.2	471.0	463.5	459.6	453.8	448.7	440.1	433.8
15°	480.2	474.4	471.6	461.8	459.6	455.0	446.9	438.9	431.5	420.0	416.6
17.5°	463.0	460.7	457.8	450.4	449.8	445.2	437.8	430.9	421.2	403.4	397.7
20°	445.2	445.2	436.0	433.2	438.9	429.7	424.0	417.7	397.7	389.1	378.8
22.5°	432.1	425.7	420.6	416.0	416.6	410.8	402.8	390.2	382.8	372.5	360.4
25°	406.3	408.5	397.1	395.4	397.1	383.9	379.9	369.6	358.7	348.9	339.8
27.5°	390.2	383.9	376.5	370.2	370.2	365.0	353.5	351.3	334.6	325.5	314.0
30°	366.1	361.6	355.3	346.1	345.0	340.9	331.8	326.0	308.9	295.1	288.8
32.5°	335.8	334.1	328.9	318.6	315.2	310.6	299.1	289.4	281.4	265.9	258.4
35°	314.0	307.7	296.8	288.2	285.3	277.3	268.2	261.3	252.7	238.9	229.2
37.5°	281.4	275.0	264.7	254.4	254.4	246.4	233.8	226.9	214.9	206.8	198.8
40°	252.7	244.7	234.4	222.3	220.6	209.1	204.0	192.5	185.1	172.5	171.3
42.5°	220.6	213.2	204.0	194.8	187.9	182.2	169.0	160.4	152.4	146.1	144.4
45°	191.4	181.6	173.6	162.1	155.3	148.4	139.8	134.1	127.8	120.9	116.9
47.5°	166.2	158.2	146.7	136.4	129.5	126.1	116.3	110.0	104.9	100.3	97.4
50°	140.4	130.7	124.3	112.9	111.7	103.7	95.7	90.5	87.7	83.7	79.6
52.5°	120.9	111.7	103.1	94.6	90.0	87.1	79.6	74.5	70.5	67.6	65.3
55°	102.0	94.0	87.1	78.5	75.6	71.6	63.0	61.9	57.9	53.9	51.0
57.5°	87.7	80.2	72.2	66.5	61.3	58.5	51.6	47.0	44.7	41.3	38.4
60°	74.5	66.5	60.2	53.3	51.0	47.0	41.8	37.8	35.0	32.1	29.2
62.5°	62.5	55.6	48.7	43.0	39.5	37.2	33.2	29.8	26.9	24.6	22.3
65°	51.6	45.3	39.5	33.8	32.1	29.2	26.4	23.5	21.2	18.3	16.1
67.5°	42.4	36.7	30.9	26.9	25.2	24.1	20.6	17.8	16.1	14.3	12.0
70°	33.2	29.2	24.6	21.2	19.5	17.8	15.5	13.8	11.4	10.3	8.6
72.5°	25.8	22.3	18.3	15.5	14.3	13.2	10.9	9.2	8.0	6.9	5.7
75°	18.3	15.5	13.2	10.3	9.7	9.2	7.5	6.3	5.2	4.0	3.4
77.5°	12.6	10.3	8.0	6.9	6.3	5.2	4.6	3.4	2.9	2.3	1.7
80°	6.9	5.2	4.0	3.4	2.9	2.3	2.3	1.7	1.1	1.1	0.6
82.5°	2.3	1.7	1.1	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°	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9
2.5°	477.3	471.0	472.7	472.7	471.6	471.6	470.4	468.7	469.3	465.8	458.4
5°	472.1	464.1	463.0	464.1	459.6	458.4	456.1	459.6	449.2	453.2	448.7
7.5°	457.3	449.8	448.1	452.1	446.4	442.9	442.4	446.9	437.8	433.2	428.0
10°	440.6	437.8	432.6	429.7	428.0	428.6	424.0	418.3	416.6	415.4	410.8
12.5°	425.7	419.4	414.9	411.4	410.3	410.3	402.8	401.7	396.5	395.4	388.5
15°	408.0	400.5	397.7	393.1	389.1	391.4	382.8	380.5	378.8	371.3	372.5
17.5°	392.5	384.5	377.6	374.7	371.3	367.9	359.8	361.6	357.5	357.5	347.2
20°	372.5	363.9	358.7	353.0	353.0	348.4	342.7	343.2	338.1	332.9	323.7
22.5°	351.3	342.1	335.8	333.5	327.8	326.6	319.7	318.0	311.1	311.7	303.7
25°	328.9	319.7	311.1	311.7	306.6	304.3	300.3	292.2	289.4	285.9	283.6
27.5°	302.5	296.2	288.8	288.2	278.5	279.0	273.9	271.6	264.7	266.4	261.3
30°	278.5	269.3	262.4	260.7	256.7	255.6	247.5	244.1	245.3	240.7	237.8
32.5°	253.8	240.1	237.2	233.8	231.5	228.6	222.9	225.2	220.0	221.2	216.6
35°	221.2	215.4	208.0	208.0	205.7	203.4	199.4	201.7	196.5	194.3	189.7
37.5°	193.7	188.5	181.1	183.4	179.3	175.9	172.5	173.0	168.5	167.9	163.3
40°	163.9	161.0	155.9	155.9	153.0	153.0	151.3	149.6	146.7	143.2	138.1
42.5°	135.8	133.5	131.2	131.8	127.8	131.2	126.6	129.5	120.3	119.8	116.3
45°	115.2	110.0	110.6	108.3	106.0	107.1	103.1	104.3	99.1	98.0	94.6
47.5°	93.4	91.7	88.2	87.1	87.1	85.4	83.7	83.1	80.8	77.9	73.3
50°	76.8	70.5	69.3	67.6	66.5	66.5	64.2	60.7	61.3	58.5	53.9
52.5°	60.2	55.0	52.7	52.1	49.9	48.7	45.8	43.6	41.8	40.7	37.8
55°	46.4	41.8	39.0	39.0	35.5	35.5	31.5	29.8	27.5	25.2	23.5
57.5°	35.0	32.7	29.8	27.5	26.4	23.5	21.2	18.3	16.6	13.2	10.9
60°	26.4	24.1	21.2	19.5	18.3	15.5	12.6	10.3	6.3	5.2	4.6
62.5°	19.5	17.2	14.3	13.2	12.0	9.7	6.9	3.4	1.7	1.7	1.7
65°	14.3	11.4	9.2	8.0	6.9	5.2	2.3	1.1	0.6	0.6	0.6
67.5°	9.7	7.5	5.2	4.6	3.4	1.7	0.6	0.6	0.6	0.6	0.6
70°	6.3	4.6	2.3	1.7	1.1	0.6	0.6	0.6	0.6	0.6	0.6
72.5°	4.0	2.3	1.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	2.3	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.1	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



TEST NUMBER: P#

CATALOG NUMBER: LD4C10D010 EX4C109050 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	477.9	477.9	477.9	477.9	477.9	477.9	477.9	477.9
2.5°	466.4	462.4	464.7	459.6	461.8	465.8	463.0	464.1
5°	450.4	448.1	445.2	437.8	443.5	448.1	445.8	445.2
7.5°	433.2	425.2	429.2	426.9	425.7	430.3	425.2	430.9
10°	415.4	409.7	409.1	405.1	405.1	408.5	409.1	405.7
12.5°	389.1	386.2	386.2	385.6	385.0	388.5	389.1	387.4
15°	370.2	369.0	366.1	365.6	362.1	367.3	367.9	367.3
17.5°	347.2	347.8	345.0	345.0	347.2	348.9	344.4	348.9
20°	331.8	328.9	327.8	322.6	325.5	328.3	328.3	328.9
22.5°	309.4	304.8	306.6	303.7	302.0	306.0	306.0	307.7
25°	284.2	284.2	285.3	283.6	284.8	287.1	285.3	289.4
27.5°	260.1	262.4	262.4	260.1	261.3	268.2	271.0	266.4
30°	237.8	238.4	240.1	238.9	242.4	244.7	244.1	247.5
32.5°	212.6	215.4	216.6	214.9	216.0	221.2	218.3	217.7
35°	193.1	187.9	187.4	187.9	190.2	191.4	190.2	194.3
37.5°	165.0	163.3	161.0	161.6	163.3	165.6	166.8	169.6
40°	138.1	135.8	135.8	135.2	133.5	139.8	139.8	139.8
42.5°	114.6	114.0	111.2	111.2	113.5	115.2	114.0	118.0
45°	94.0	91.7	90.0	90.0	91.7	91.7	93.4	92.8
47.5°	73.9	71.6	72.2	70.5	72.2	74.5	71.6	72.2
50°	55.6	55.6	54.4	55.6	55.0	55.6	54.4	53.3
52.5°	37.8	43.0	43.6	41.3	36.1	31.5	28.6	30.9
55°	21.8	19.5	19.5	18.9	17.8	17.2	15.5	17.2
57.5°	10.9	9.7	9.7	9.7	9.2	8.6	7.5	7.5
60°	4.6	4.0	4.0	3.4	2.9	2.3	1.7	2.3
62.5°	1.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)