

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: P857107

Luminaire Tested: **LX4C15D010 EX4C159030 4LBSWNH**

Issue Date: 2/18/2022



Test Information

Test Method: LM-79-08
Report Number: P857107
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251634)
Test Lab: INNOVATION CENTER
Issue Date: 2/18/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LX4C15D010 EX4C159030 4LBSWNH
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LCSW TRIM WITH H FINISH, DIM TO WARM
Light Source: -
Ballast/Driver: -

Summary

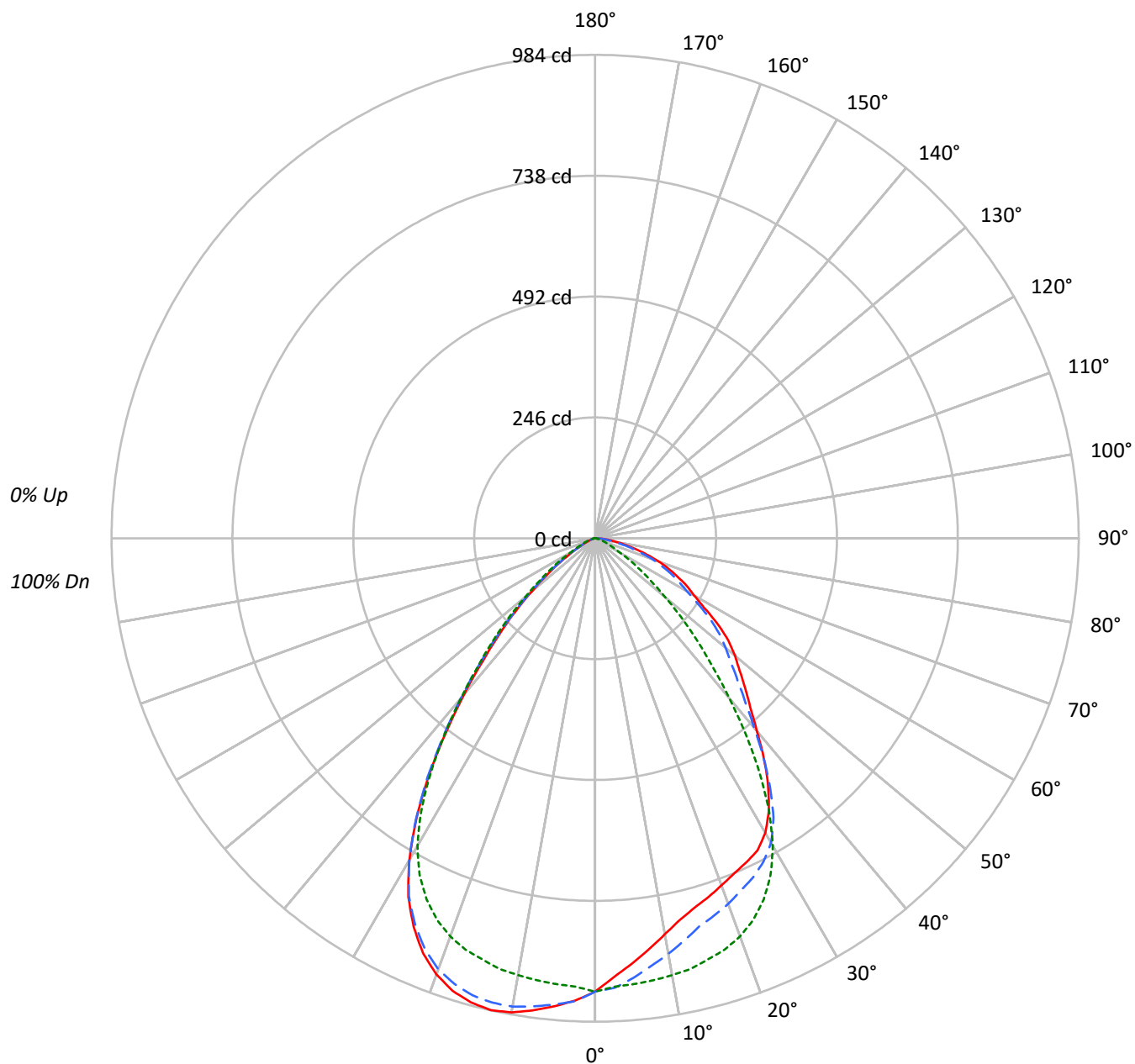
Lumens per Lamp: N/A
Luminaire Lumens: 1617.7 lumens
Efficiency: N/A
Efficacy: 69.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.17 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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	111	108	104	101	109	106	103	100	101	99	97	98	96	94	94	93	91	89		
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79		
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70		
4	90	80	72	67	88	78	72	66	76	70	66	74	69	65	72	68	64	62		
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56		
6	78	67	59	53	76	66	59	53	64	58	53	62	57	52	61	56	52	50		
7	73	61	54	48	71	61	53	48	59	53	48	58	52	48	56	51	47	46		
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42		
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38		
10	61	49	42	37	59	48	42	37	47	41	37	47	41	37	46	40	37	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	113369	113369	113369
5°	107069	112347	117909
10°	102057	112611	122254
15°	99079	112841	124338
20°	98263	112722	123456
25°	98656	109948	118338
30°	98195	102564	107302
35°	92041	87586	88471
40°	81999	67902	66379
45°	75004	50611	47518
50°	70927	35454	32033
55°	65199	23946	20112
60°	56955	14030	11106
65°	53924	8983	6221
70°	49103	6394	3879
75°	40632	4557	2848
80°	31978	2547	1627
85°	28333	1692	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.2	5.4
10°-20°	250.2	15.5
20°-30°	370.8	22.9
30°-40°	371.3	23.0
40°-50°	259.5	16.0
50°-60°	154.4	9.5
60°-70°	80.6	5.0
70°-80°	35.8	2.2
80°-90°	7.8	0.5
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°	708.2	43.8
0°-40°	1079.5	66.7
0°-60°	1493.5	92.3
0°-90°	1617.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1617.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	923	923	923	923	923	
5°	868	898	911	953	956	81
15°	779	818	887	963	978	221
25°	728	761	811	867	873	335
35°	614	621	584	595	590	380
45°	432	410	291	282	274	335
55°	304	285	112	98	94	270
65°	186	170	31	23	21	184
75°	86	75	10	6	6	93
85°	20	16	1	1	0	23
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°	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8
2.5°	893.1	903.9	893.1	896.8	911.0	898.0	905.0	905.0	901.4	909.8	915.8
5°	868.2	878.9	868.2	873.0	888.4	875.3	883.6	881.3	882.5	889.5	898.0
7.5°	843.2	851.5	842.0	847.9	862.2	851.5	858.6	858.6	859.8	870.5	877.7
10°	818.1	825.4	818.1	823.0	838.5	828.9	833.8	834.8	838.5	847.9	858.6
12.5°	795.7	801.6	794.4	801.6	814.7	805.1	811.1	812.2	815.8	826.6	838.5
15°	779.0	784.9	777.9	783.8	795.7	788.4	793.3	795.7	798.0	807.5	818.1
17.5°	766.0	770.6	764.7	771.9	781.4	773.1	780.2	780.2	783.8	793.3	805.1
20°	751.6	756.4	751.6	757.5	768.3	761.2	767.1	767.1	770.6	781.4	792.1
22.5°	738.5	740.9	738.5	743.3	753.9	748.0	751.6	752.8	756.4	766.0	775.5
25°	727.8	732.6	730.1	735.0	742.0	736.1	739.7	740.9	744.4	752.8	761.2
27.5°	716.0	718.3	716.0	721.9	727.8	723.0	726.6	725.5	727.8	735.0	742.0
30°	692.2	694.5	694.5	698.1	702.9	700.5	704.1	700.5	702.9	708.8	716.0
32.5°	657.7	658.8	660.1	663.6	667.2	663.6	666.0	666.0	666.0	670.8	675.5
35°	613.7	616.0	614.9	617.2	620.8	619.6	619.6	618.5	616.0	618.5	620.8
37.5°	563.7	560.2	560.2	563.7	566.2	561.3	563.7	561.3	561.3	562.5	562.5
40°	511.3	507.9	511.3	512.6	513.8	511.3	510.2	507.9	504.2	505.4	503.0
42.5°	467.4	465.1	466.2	466.2	467.4	465.1	466.2	461.5	457.8	455.5	451.9
45°	431.7	428.2	431.7	429.3	429.3	428.2	426.9	424.6	419.8	416.2	410.2
47.5°	398.4	398.4	399.6	399.6	399.6	397.2	397.2	392.4	387.8	382.9	374.6
50°	371.1	368.6	373.4	373.4	370.0	368.6	370.0	363.9	360.4	354.5	346.1
52.5°	341.4	341.4	342.5	342.5	341.4	338.9	340.2	335.4	331.8	325.9	317.6
55°	304.4	302.1	305.6	305.6	304.4	303.2	304.4	300.9	297.3	292.6	285.4
57.5°	262.8	261.6	264.0	265.3	262.8	262.8	264.0	260.4	259.3	254.5	247.3
60°	231.8	230.7	233.0	234.4	231.8	231.8	231.8	227.1	224.8	219.9	215.2
62.5°	210.5	209.3	211.7	210.5	209.3	208.1	209.3	204.6	202.2	197.4	192.7
65°	185.5	186.7	188.0	188.0	186.7	185.5	185.5	183.1	180.8	176.1	170.1
67.5°	161.7	161.7	163.0	164.2	163.0	163.0	163.0	159.3	157.0	153.4	146.3
70°	136.7	135.6	139.2	139.2	136.7	137.9	136.7	135.6	133.3	128.4	122.5
72.5°	110.6	110.6	111.8	111.8	110.6	110.6	110.6	109.3	105.9	103.4	97.5
75°	85.6	85.6	86.9	88.0	85.6	85.6	86.9	84.5	82.0	78.4	75.0
77.5°	64.2	63.0	64.2	64.2	63.0	63.0	63.0	61.8	60.6	57.1	53.6
80°	45.2	44.0	45.2	45.2	45.2	44.0	44.0	42.8	42.8	40.5	36.9
82.5°	30.9	29.7	30.9	30.9	30.9	29.7	29.7	29.7	28.6	27.4	25.0
85°	20.1	19.0	19.0	20.1	19.0	19.0	19.0	19.0	17.8	16.7	15.5
87.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	8.3	8.3	8.3	7.1
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°	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8
2.5°	911.0	908.6	915.8	913.4	914.6	908.6	918.1	913.4	919.3	913.4	925.3
5°	895.4	893.1	903.9	902.7	903.9	899.1	909.8	908.6	915.8	911.0	924.0
7.5°	878.9	876.4	888.4	889.5	891.9	887.2	901.4	901.4	908.6	907.3	921.7
10°	859.8	861.1	873.0	875.3	880.1	877.7	890.8	894.4	903.9	902.7	920.5
12.5°	842.0	842.0	857.5	862.2	865.7	864.5	880.1	884.9	895.4	898.0	914.6
15°	824.2	825.4	839.7	846.7	851.5	850.4	867.1	873.0	886.0	887.2	907.3
17.5°	809.9	808.8	824.2	830.1	837.3	836.1	853.9	861.1	874.1	877.7	896.8
20°	798.0	796.8	811.1	818.1	823.0	821.8	839.7	847.9	859.8	862.2	881.3
22.5°	783.8	781.4	795.7	801.6	806.3	805.1	820.7	826.6	838.5	840.8	858.6
25°	767.1	764.7	777.9	781.4	784.9	782.5	795.7	799.2	808.8	811.1	828.9
27.5°	748.0	742.0	752.8	752.8	755.2	751.6	761.2	764.7	773.1	773.1	789.8
30°	718.3	710.0	716.0	714.8	716.0	711.1	717.1	718.3	724.2	723.0	735.0
32.5°	676.7	664.7	668.4	664.7	661.3	654.2	661.3	658.8	663.6	658.8	669.5
35°	619.6	607.7	606.5	601.8	598.2	592.2	592.2	586.3	587.5	584.0	591.0
37.5°	557.7	542.3	539.9	530.4	524.5	517.2	517.2	512.6	506.7	504.2	510.2
40°	497.1	480.5	474.6	459.2	453.1	446.0	441.2	435.3	432.9	423.4	428.2
42.5°	444.8	426.9	413.9	397.2	391.3	380.5	373.4	366.3	362.7	352.0	356.8
45°	400.9	379.3	365.1	343.7	335.4	323.6	312.8	304.4	296.2	291.3	289.0
47.5°	363.9	341.4	322.2	298.5	285.4	274.6	260.4	252.2	241.4	235.5	231.8
50°	333.0	308.0	286.6	259.3	246.3	234.4	217.6	204.6	195.0	185.5	183.1
52.5°	305.6	279.5	255.7	224.8	209.3	195.0	177.2	163.0	154.6	143.9	142.6
55°	273.5	250.9	224.8	192.7	177.2	163.0	143.9	129.7	118.9	111.8	109.3
57.5°	239.0	217.6	192.7	160.6	145.2	129.7	111.8	98.7	89.2	83.3	82.0
60°	207.0	186.7	163.0	130.8	115.2	102.3	83.3	70.2	61.8	57.1	54.6
62.5°	183.1	164.2	141.6	111.8	97.5	84.5	66.6	54.6	47.5	42.8	40.5
65°	160.6	141.6	121.3	93.9	82.0	70.2	53.6	42.8	35.6	30.9	28.6
67.5°	136.7	120.1	101.1	78.4	66.6	57.1	42.8	33.3	27.4	23.7	21.4
70°	112.9	97.5	82.0	63.0	54.6	45.2	33.3	26.2	20.1	17.8	15.5
72.5°	89.2	77.3	64.2	48.7	41.6	35.6	26.2	19.0	15.5	13.1	10.8
75°	66.6	58.3	47.5	36.9	30.9	26.2	19.0	14.2	11.9	9.6	8.3
77.5°	47.5	40.5	33.3	25.0	22.7	19.0	13.1	10.8	8.3	6.0	4.7
80°	32.1	28.6	22.7	17.8	14.2	13.1	9.6	7.1	4.7	3.6	3.6
82.5°	21.4	17.8	14.2	10.8	9.6	8.3	6.0	4.7	3.6	2.3	2.3
85°	13.1	10.8	8.3	6.0	6.0	4.7	3.6	2.3	1.2	1.2	1.2
87.5°	6.0	4.7	3.6	2.3	2.3	1.2	1.2	1.2	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°	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8
2.5°	934.8	927.7	922.8	928.9	931.2	927.7	931.2	937.1	943.1	944.3	927.7
5°	935.9	928.9	926.4	933.6	934.8	933.6	937.1	945.5	952.6	955.0	938.4
7.5°	935.9	931.2	930.0	938.4	939.5	938.4	944.3	953.7	960.9	965.6	949.0
10°	933.6	931.2	932.4	939.5	941.9	941.9	950.2	960.9	968.1	972.9	956.1
12.5°	930.0	930.0	930.0	938.4	940.8	941.9	949.0	963.3	968.1	975.2	958.6
15°	924.0	924.0	924.0	932.4	935.9	935.9	944.3	957.4	963.3	970.4	953.7
17.5°	913.4	913.4	914.6	921.7	925.3	925.3	933.6	947.8	951.4	959.7	943.1
20°	898.0	898.0	899.1	906.2	909.8	907.3	918.1	930.0	933.6	940.8	924.0
22.5°	875.3	875.3	875.3	882.5	884.9	883.6	894.4	905.0	905.0	914.6	896.8
25°	842.0	844.4	842.0	849.1	851.5	850.4	859.8	869.4	867.1	877.7	859.8
27.5°	801.6	800.3	800.3	806.3	806.3	805.1	812.2	823.0	820.7	827.7	811.1
30°	745.7	749.3	743.3	751.6	748.0	745.7	750.5	759.8	756.4	762.4	749.3
32.5°	681.4	676.7	676.7	676.7	679.1	673.2	677.9	682.6	679.1	685.1	670.8
35°	597.1	598.2	594.6	595.9	597.1	589.9	594.6	599.4	594.6	598.2	585.1
37.5°	512.6	513.8	505.4	510.2	505.4	503.0	507.9	510.2	505.4	509.0	494.8
40°	428.2	425.7	424.6	424.6	425.7	419.8	423.4	426.9	423.4	425.7	412.7
42.5°	354.5	353.3	350.9	352.0	348.4	347.3	348.4	352.0	348.4	350.9	341.4
45°	290.1	287.8	284.2	285.4	285.4	279.5	283.1	285.4	281.9	283.1	274.6
47.5°	230.7	227.1	227.1	225.9	225.9	223.6	227.1	225.9	222.5	224.8	216.4
50°	179.6	177.2	177.2	177.2	177.2	173.5	174.9	177.2	173.5	173.5	168.9
52.5°	140.3	136.7	134.4	134.4	134.4	133.3	133.3	134.4	130.8	130.8	129.7
55°	105.9	104.7	101.1	101.1	101.1	97.5	98.7	98.7	97.5	97.5	93.9
57.5°	78.4	75.0	72.5	72.5	70.2	70.2	69.1	70.2	67.7	67.7	65.4
60°	52.3	49.9	48.7	47.5	47.5	46.4	47.5	46.4	46.4	45.2	44.0
62.5°	38.0	35.6	33.3	33.3	33.3	32.1	32.1	32.1	32.1	32.1	30.9
65°	27.4	25.0	25.0	23.7	23.7	22.7	22.7	22.7	22.7	22.7	21.4
67.5°	19.0	17.8	16.7	16.7	16.7	16.7	16.7	16.7	15.5	15.5	15.5
70°	14.2	13.1	11.9	11.9	11.9	11.9	11.9	10.8	11.9	11.9	10.8
72.5°	9.6	9.6	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
75°	7.1	7.1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
77.5°	4.7	4.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
80°	3.6	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	2.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
85°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0
87.5°	0.0	0.0	0.0	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	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	922.8	922.8	922.8	922.8	922.8	922.8	922.8	922.8
2.5°	945.5	944.3	941.9	945.5	935.9	932.4	931.2	941.9
5°	958.6	956.1	956.1	959.7	949.0	946.7	944.3	956.1
7.5°	970.4	968.1	968.1	971.7	962.2	959.7	957.4	969.2
10°	977.6	977.6	977.6	980.0	971.7	969.2	968.1	980.0
12.5°	981.1	981.1	980.0	984.6	974.1	974.1	971.7	983.5
15°	976.4	976.4	976.4	980.0	970.4	968.1	968.1	977.6
17.5°	964.5	964.5	963.3	966.8	956.1	956.1	955.0	965.6
20°	946.7	946.7	944.3	949.0	938.4	934.8	933.6	944.3
22.5°	918.1	916.9	915.8	918.1	908.6	906.2	905.0	914.6
25°	881.3	880.1	877.7	880.1	869.4	865.7	865.7	873.0
27.5°	828.9	828.9	825.4	828.9	817.0	815.8	814.7	823.0
30°	764.7	759.8	757.5	762.4	750.5	750.5	748.0	756.4
32.5°	685.1	680.2	679.1	681.4	670.8	667.2	672.0	676.7
35°	593.5	594.6	589.9	589.9	580.4	581.4	582.8	589.9
37.5°	505.4	503.0	501.8	503.0	495.9	493.5	491.2	498.3
40°	423.4	417.5	416.2	416.2	410.2	409.1	410.2	413.9
42.5°	346.1	344.9	340.2	342.5	336.5	338.9	337.7	337.7
45°	279.5	280.5	275.9	279.5	274.6	271.2	271.2	273.5
47.5°	221.2	221.2	219.9	219.9	216.4	217.6	215.2	218.9
50°	171.2	171.2	168.9	170.1	167.6	167.6	166.5	167.6
52.5°	130.8	129.7	129.7	128.4	126.0	127.4	128.4	126.0
55°	95.1	96.3	93.9	95.1	92.8	93.9	92.8	93.9
57.5°	65.4	66.6	64.2	66.6	64.2	65.4	64.2	64.2
60°	45.2	45.2	44.0	45.2	44.0	44.0	42.8	45.2
62.5°	30.9	30.9	30.9	30.9	30.9	29.7	30.9	30.9
65°	22.7	21.4	21.4	21.4	21.4	21.4	21.4	21.4
67.5°	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
70°	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
72.5°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
75°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
77.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
80°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
85°	1.2	1.2	1.2	0.0	1.2	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)