

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: P563792

Luminaire Tested: **LD4C15D010 EX4C15D2W 4LBSQLWWLI**

Issue Date: 2/18/2022



Test Information

Test Method: LM-79-08
Report Number: P563792
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 EX4C15D2W 4LBSQLWWLI
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH, DIM TO WARM
Light Source: -
Ballast/Driver: -

Summary

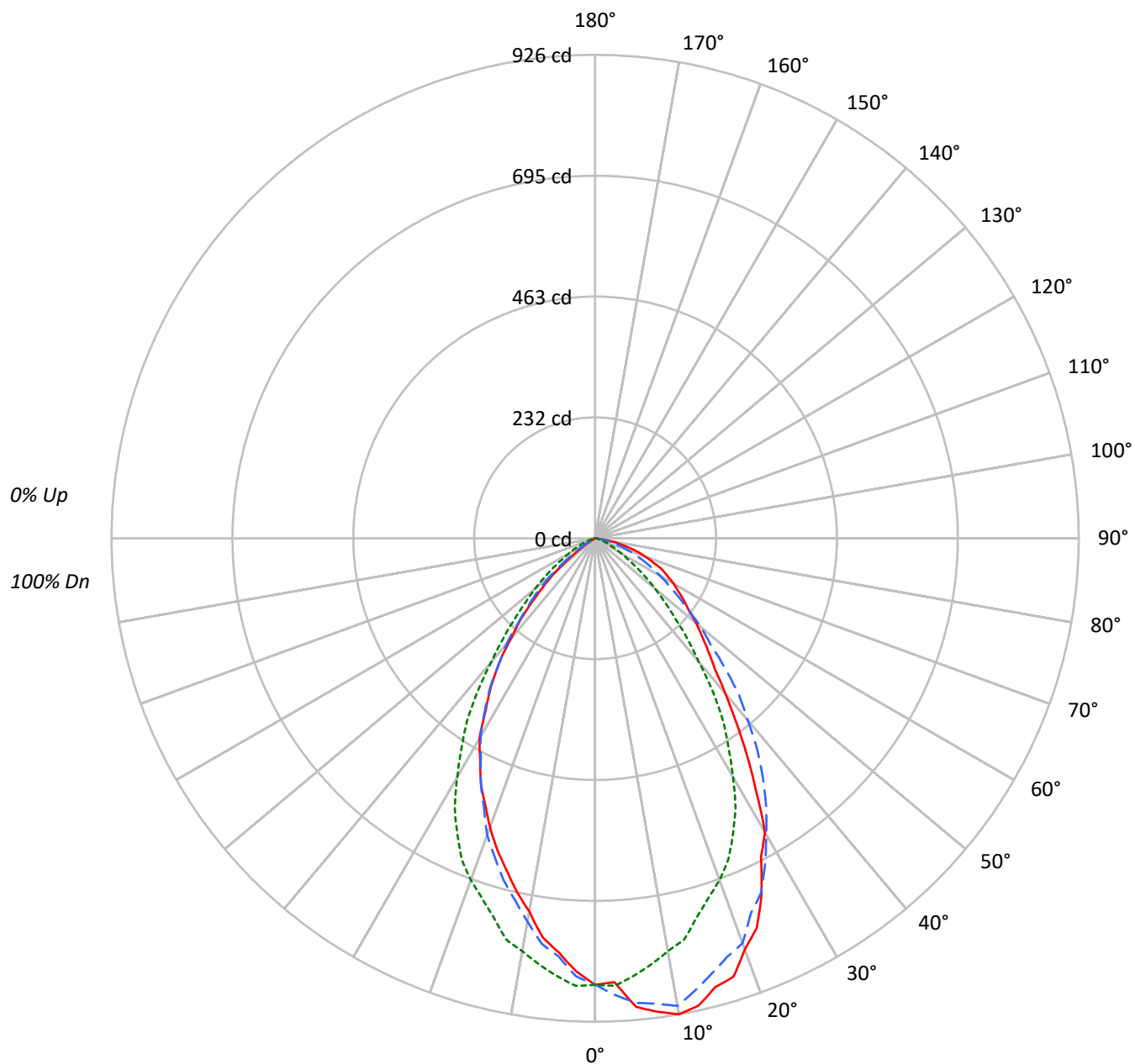
Lumens per Lamp: N/A
Luminaire Lumens: 1225.7 lumens
Efficiency: N/A
Efficacy: 77.6 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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				0
RW	70	50	30	10	70	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°	82508	82508	82508
5°	87288	81535	77166
10°	90717	78666	71122
15°	88894	75069	65649
20°	86016	71487	60438
25°	80231	66476	55127
30°	72431	58828	49357
35°	59661	50356	40944
40°	48682	38870	31502
45°	41837	29529	22665
50°	37873	22471	14321
55°	34839	16200	5164
60°	33443	11077	791
65°	32306	7511	228
70°	28917	5191	282
75°	23710	2684	0
80°	14836	1111	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.1	6.5
10°-20°	215.8	17.6
20°-30°	288.2	23.5
30°-40°	273.6	22.3
40°-50°	189.1	15.4
50°-60°	104.5	8.5
60°-70°	51.9	4.2
70°-80°	20.4	1.7
80°-90°	1.9	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°	584.2	47.7
0°-40°	857.8	70.0
0°-60°	1151.4	93.9
0°-90°	1225.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1225.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	855	855	855	855	855	
5°	901	893	842	804	797	86
15°	890	863	752	678	657	252
25°	754	750	624	518	518	344
35°	506	560	428	352	348	317
45°	307	352	216	177	166	239
55°	207	195	96	49	31	186
65°	142	102	33	1	1	137
75°	64	39	7	0	0	68
85°	0	1	0	0	0	6
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°	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1
2.5°	851.0	874.6	876.6	874.6	877.6	876.6	881.8	876.6	882.8	873.6	875.6
5°	901.2	892.0	911.5	901.2	901.2	900.2	897.2	896.2	900.2	886.9	893.1
7.5°	914.6	927.9	945.4	923.8	924.8	924.8	918.6	916.6	916.6	892.0	899.2
10°	925.9	917.6	926.9	918.6	925.9	924.8	928.9	915.6	924.8	910.5	909.5
12.5°	916.6	913.5	925.9	912.5	908.5	909.5	904.4	901.2	904.4	887.9	886.9
15°	889.9	893.1	911.5	897.2	895.1	893.1	886.9	876.6	884.9	862.3	863.3
17.5°	880.8	875.6	878.8	866.3	869.5	867.5	866.3	857.2	855.1	840.7	840.7
20°	837.7	849.0	849.0	840.7	840.7	839.8	826.4	834.6	825.4	821.3	825.4
22.5°	808.0	809.0	809.0	801.8	802.9	798.7	791.6	786.4	791.6	786.4	778.3
25°	753.6	755.7	768.0	754.7	752.6	756.7	750.5	747.4	746.4	734.1	750.5
27.5°	688.0	708.5	707.5	702.4	708.5	700.2	697.2	698.2	701.4	700.2	704.4
30°	650.1	653.1	656.2	652.1	653.1	650.1	650.1	651.1	659.2	656.2	655.2
32.5°	573.2	583.4	591.6	591.6	592.6	595.7	594.7	616.2	621.3	611.1	609.1
35°	506.5	513.7	520.8	521.9	535.3	536.3	537.3	543.4	557.7	560.9	559.8
37.5°	443.0	450.1	452.1	461.4	468.6	475.7	484.0	492.1	504.4	514.7	509.6
40°	386.5	389.6	394.8	398.8	413.2	413.2	417.3	433.7	447.1	455.2	454.2
42.5°	339.4	340.4	344.5	351.6	365.1	361.9	365.1	376.3	395.8	396.8	408.1
45°	306.6	305.6	308.6	309.6	317.9	321.9	324.0	332.2	348.6	350.6	351.6
47.5°	276.9	275.8	281.0	283.0	286.0	290.1	290.1	291.2	297.3	302.5	298.3
50°	252.3	252.3	252.3	254.3	259.4	258.4	259.4	263.6	266.6	264.5	263.6
52.5°	225.5	229.7	232.7	233.8	234.8	234.8	235.8	233.8	232.7	229.7	223.5
55°	207.1	211.2	211.2	211.2	211.2	215.3	210.3	211.2	211.2	203.0	194.8
57.5°	188.7	192.8	195.8	191.7	195.8	191.7	189.7	188.7	186.6	178.4	166.1
60°	173.3	175.4	174.2	173.3	175.4	172.2	170.2	166.1	164.1	152.8	144.5
62.5°	155.8	156.9	157.9	155.8	153.8	152.8	148.7	142.5	138.4	129.2	122.0
65°	141.5	138.4	137.4	136.4	134.4	131.2	128.2	120.9	117.9	109.7	102.5
67.5°	119.9	118.9	120.9	117.9	112.8	112.8	109.7	103.6	96.3	91.2	84.1
70°	102.5	101.5	99.5	96.3	95.4	91.2	91.2	84.1	82.0	72.8	66.6
72.5°	84.1	84.1	81.0	77.9	74.9	72.8	71.8	66.6	63.6	58.5	53.3
75°	63.6	63.6	62.6	59.4	57.4	55.3	54.3	50.2	47.2	42.0	39.0
77.5°	45.1	45.1	41.0	39.0	40.0	37.9	35.9	34.9	33.9	30.7	26.7
80°	26.7	25.6	22.6	23.6	22.6	22.6	21.6	20.4	18.4	16.4	14.3
82.5°	7.2	8.2	8.2	8.2	9.3	7.2	7.2	7.2	8.2	8.2	5.2
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
87.5°	1.0	2.0	4.1	4.1	4.1	4.1	4.1	3.1	3.1	3.1	2.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1
2.5°	865.3	864.3	865.3	858.2	874.6	862.3	860.2	858.2	865.3	858.2	847.9
5°	883.8	873.6	870.5	867.5	876.6	862.3	859.2	860.2	855.1	841.8	842.9
7.5°	889.9	880.8	871.5	852.0	860.2	857.2	849.0	842.9	834.6	823.3	821.3
10°	892.0	881.8	868.4	862.3	850.0	845.9	842.9	832.6	822.3	802.9	797.7
12.5°	885.9	873.6	857.2	852.0	842.9	829.4	822.3	812.0	802.9	787.4	776.1
15°	859.2	849.0	843.9	826.4	822.3	814.1	799.7	785.4	772.1	751.5	745.4
17.5°	828.5	824.3	819.3	805.9	804.9	796.7	783.3	771.0	753.6	721.8	711.5
20°	796.7	796.7	780.3	775.1	785.4	769.0	758.7	747.4	711.5	696.2	677.8
22.5°	773.1	761.8	752.6	744.4	745.4	735.1	720.8	698.2	684.9	666.5	644.9
25°	727.0	731.1	710.5	707.5	710.5	686.9	679.8	661.3	641.9	624.4	608.0
27.5°	698.2	686.9	673.7	662.4	662.4	653.1	632.6	628.5	598.7	582.3	561.9
30°	655.2	646.9	635.6	619.3	617.2	610.0	593.6	583.4	552.6	528.0	516.7
32.5°	600.9	597.8	588.6	570.1	563.9	555.7	535.3	517.8	503.4	475.7	462.4
35°	561.9	550.6	531.1	515.7	510.6	496.3	479.8	467.5	452.1	427.5	410.1
37.5°	503.4	492.1	473.7	455.2	455.2	440.9	418.4	406.1	384.5	370.2	355.8
40°	452.1	437.8	419.4	397.8	394.8	374.2	365.1	344.5	331.2	308.6	306.6
42.5°	394.8	381.5	365.1	348.6	336.3	326.0	302.5	287.1	272.7	261.4	258.4
45°	342.5	325.0	310.7	290.1	277.9	265.6	250.1	240.0	228.7	216.4	209.1
47.5°	297.3	283.0	262.4	244.0	231.7	225.5	208.1	196.8	187.7	179.4	174.2
50°	251.2	233.8	222.5	202.0	199.9	185.5	171.2	162.0	156.9	149.7	142.5
52.5°	216.4	199.9	184.5	169.2	160.9	155.8	142.5	133.3	126.1	120.9	116.9
55°	182.5	168.1	155.8	140.5	135.3	128.2	112.8	110.8	103.6	96.3	91.2
57.5°	156.9	143.5	129.2	118.9	109.7	104.6	92.3	84.1	80.0	73.8	68.7
60°	133.3	118.9	107.6	95.4	91.2	84.1	74.9	67.6	62.6	57.4	52.3
62.5°	111.8	99.5	87.2	76.9	70.7	66.6	59.4	53.3	48.2	44.1	40.0
65°	92.3	81.0	70.7	60.5	57.4	52.3	47.2	42.0	37.9	32.9	28.7
67.5°	75.9	65.6	55.3	48.2	45.1	43.0	36.9	31.7	28.7	25.6	21.6
70°	59.4	52.3	44.1	37.9	34.9	31.7	27.7	24.6	20.4	18.4	15.4
72.5°	46.2	40.0	32.9	27.7	25.6	23.6	19.5	16.4	14.3	12.3	10.3
75°	32.9	27.7	23.6	18.4	17.4	16.4	13.3	11.3	9.3	7.2	6.1
77.5°	22.6	18.4	14.3	12.3	11.3	9.3	8.2	6.1	5.2	4.1	3.1
80°	12.3	9.3	7.2	6.1	5.2	4.1	4.1	3.1	2.0	2.0	1.0
82.5°	4.1	3.1	2.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0
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°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1
2.5°	854.0	842.9	845.9	845.9	843.9	843.9	841.8	838.7	839.8	833.6	820.3
5°	844.9	830.5	828.5	830.5	822.3	820.3	816.2	822.3	803.8	811.0	802.9
7.5°	818.2	804.9	801.8	809.0	798.7	792.5	791.6	799.7	783.3	775.1	766.0
10°	788.4	783.3	774.1	769.0	766.0	767.0	758.7	748.5	745.4	743.4	735.1
12.5°	761.8	750.5	742.4	736.1	734.1	734.1	720.8	718.8	709.5	707.5	695.2
15°	730.0	716.7	711.5	703.4	696.2	700.2	684.9	680.8	677.8	664.4	666.5
17.5°	702.4	688.0	675.7	670.5	664.4	658.2	643.9	646.9	639.8	639.8	621.3
20°	666.5	651.1	641.9	631.6	631.6	623.4	613.2	614.2	604.9	595.7	579.3
22.5°	628.5	612.2	600.9	596.7	586.5	584.4	572.2	569.0	556.7	557.7	543.4
25°	588.6	572.2	556.7	557.7	548.6	544.5	537.3	522.9	517.8	511.7	507.6
27.5°	541.4	530.1	516.7	515.7	498.3	499.3	490.1	486.0	473.7	476.8	467.5
30°	498.3	481.9	469.5	466.5	459.4	457.3	443.0	436.8	438.8	430.6	425.5
32.5°	454.2	429.7	424.5	418.4	414.2	409.1	398.8	402.9	393.7	395.8	387.6
35°	395.8	385.5	372.2	372.2	368.1	364.0	356.8	360.9	351.6	347.6	339.4
37.5°	346.6	337.3	324.0	328.1	320.9	314.7	308.6	309.6	301.4	300.4	292.2
40°	293.3	288.1	278.9	278.9	273.7	273.7	270.7	267.6	262.4	256.3	247.1
42.5°	243.0	238.9	234.8	235.8	228.7	234.8	226.6	231.7	215.3	214.3	208.1
45°	206.1	196.8	197.8	193.8	189.7	191.7	184.5	186.6	177.4	175.4	169.2
47.5°	167.1	164.1	157.9	155.8	155.8	152.8	149.7	148.7	144.5	139.5	131.2
50°	137.4	126.1	124.0	120.9	118.9	118.9	114.8	108.7	109.7	104.6	96.3
52.5°	107.6	98.5	94.3	93.3	89.2	87.2	82.0	77.9	74.9	72.8	67.6
55°	83.0	74.9	69.8	69.8	63.6	63.6	56.4	53.3	49.2	45.1	42.0
57.5°	62.6	58.5	53.3	49.2	47.2	42.0	37.9	32.9	29.7	23.6	19.5
60°	47.2	43.0	37.9	34.9	32.9	27.7	22.6	18.4	11.3	9.3	8.2
62.5°	34.9	30.7	25.6	23.6	21.6	17.4	12.3	6.1	3.1	3.1	3.1
65°	25.6	20.4	16.4	14.3	12.3	9.3	4.1	2.0	1.0	1.0	1.0
67.5°	17.4	13.3	9.3	8.2	6.1	3.1	1.0	1.0	1.0	1.0	1.0
70°	11.3	8.2	4.1	3.1	2.0	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	7.2	4.1	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	4.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.0	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	1.0	1.0	1.0
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: P563792

CATALOG NUMBER: LD4C15D010 EX4C15D2W 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	855.1	855.1	855.1	855.1	855.1	855.1	855.1	855.1
2.5°	834.6	827.4	831.6	822.3	826.4	833.6	828.5	830.5
5°	805.9	801.8	796.7	783.3	793.6	801.8	797.7	796.7
7.5°	775.1	760.8	768.0	763.9	761.8	770.0	760.8	771.0
10°	743.4	733.1	732.1	724.9	724.9	731.1	732.1	725.9
12.5°	696.2	691.1	691.1	690.1	688.9	695.2	696.2	693.1
15°	662.4	660.3	655.2	654.2	648.1	657.2	658.2	657.2
17.5°	621.3	622.3	617.2	617.2	621.3	624.4	616.2	624.4
20°	593.6	588.6	586.5	577.3	582.3	587.5	587.5	588.6
22.5°	553.7	545.4	548.6	543.4	540.3	547.6	547.6	550.6
25°	508.6	508.6	510.6	507.6	509.6	513.7	510.6	517.8
27.5°	465.5	469.5	469.5	465.5	467.5	479.8	485.0	476.8
30°	425.5	426.5	429.7	427.5	433.7	437.8	436.8	443.0
32.5°	380.4	385.5	387.6	384.5	386.5	395.8	390.6	389.6
35°	345.5	336.3	335.3	336.3	340.4	342.5	340.4	347.6
37.5°	295.3	292.2	288.1	289.2	292.2	296.3	298.3	303.5
40°	247.1	243.0	243.0	242.0	238.9	250.1	250.1	250.1
42.5°	205.1	204.1	199.0	199.0	203.0	206.1	204.1	211.2
45°	168.1	164.1	160.9	160.9	164.1	164.1	167.1	166.1
47.5°	132.2	128.2	129.2	126.1	129.2	133.3	128.2	129.2
50°	99.5	99.5	97.4	99.5	98.5	99.5	97.4	95.4
52.5°	67.6	76.9	77.9	73.8	64.6	56.4	51.3	55.3
55°	39.0	34.9	34.9	33.9	31.7	30.7	27.7	30.7
57.5°	19.5	17.4	17.4	17.4	16.4	15.4	13.3	13.3
60°	8.2	7.2	7.2	6.1	5.2	4.1	3.1	4.1
62.5°	3.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0
65°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
67.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)