

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: P843349

Luminaire Tested: **LD4C10DE010B50 EU4C10B50 4LBSWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843349
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251556)
Test Lab: INNOVATION CENTER
Issue Date: 5/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C10DE010B50 EU4C10B50 4LBSWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

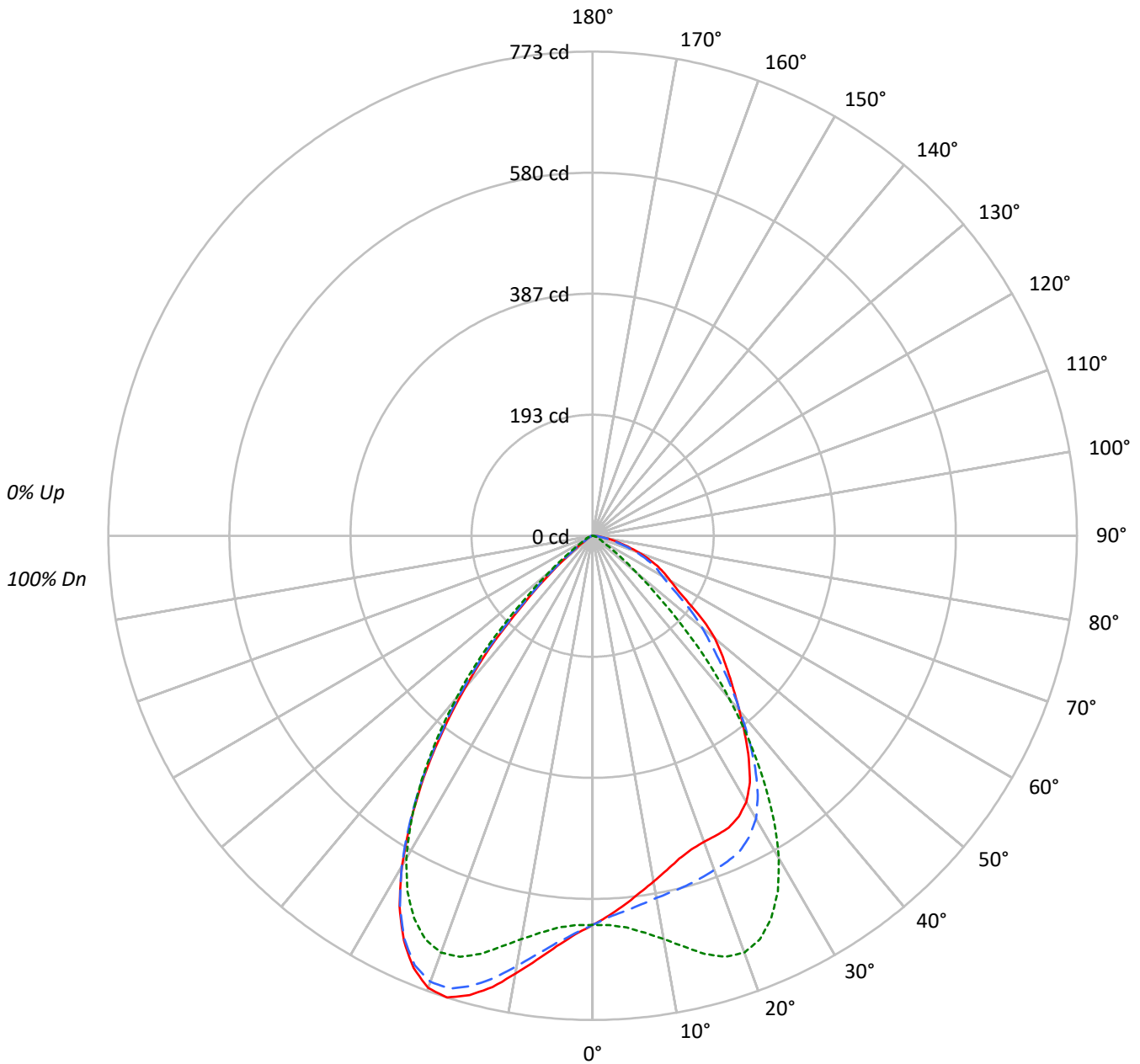
Lumens per Lamp: N/A
Luminaire Lumens: 1146.5 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 13.3
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	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	85	82	80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72			
4	91	81	75	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	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53			
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48			
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40			
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	76329	76329	76329
5°	72908	77422	81109
10°	69909	81548	88534
15°	67880	87899	96561
20°	67971	92576	100420
25°	69702	91363	96650
30°	69596	84335	86279
35°	65195	71284	70294
40°	58392	54367	50726
45°	52974	34522	28320
50°	48680	17507	12079
55°	39968	7818	3984
60°	35087	4398	2187
65°	32994	3285	1657
70°	28269	2622	1437
75°	21550	1899	1139
80°	15494	1132	566
85°	11418	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.3	5.3
10°-20°	188.1	16.4
20°-30°	291.0	25.4
30°-40°	286.7	25.0
40°-50°	176.0	15.4
50°-60°	78.3	6.8
60°-70°	43.7	3.8
70°-80°	18.9	1.7
80°-90°	3.4	0.3
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°	539.4	47.1
0°-40°	826.1	72.1
0°-60°	1080.4	94.2
0°-90°	1146.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1146.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	621	621	621	621	621	
5°	591	601	628	652	658	55
15°	534	578	691	744	759	151
25°	514	556	674	710	713	236
35°	435	453	475	474	469	270
45°	305	290	199	174	163	236
55°	187	169	36	21	19	171
65°	114	102	11	6	6	111
75°	45	39	4	2	2	50
85°	8	6	0	0	0	10
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°	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3
2.5°	606.7	606.7	606.7	606.7	608.2	605.9	608.2	608.2	610.8	611.5	609.1
5°	591.2	590.5	591.2	591.2	592.9	592.1	594.5	596.1	599.4	601.1	601.1
7.5°	575.0	575.0	575.0	576.6	579.1	578.3	580.7	583.2	588.0	591.2	593.6
10°	560.4	559.6	562.0	562.9	565.3	565.3	569.3	571.8	577.5	584.0	587.2
12.5°	546.7	545.8	547.4	549.9	554.0	554.0	557.2	561.3	569.3	576.6	582.3
15°	533.7	534.5	537.0	538.5	543.4	543.4	547.4	552.3	561.3	570.2	578.3
17.5°	524.8	525.5	527.2	529.6	534.5	534.5	538.5	544.3	554.0	563.7	573.4
20°	519.9	520.7	522.4	524.8	528.8	529.6	532.8	539.4	548.3	558.9	567.7
22.5°	517.5	519.1	520.7	522.4	526.4	526.4	530.4	535.3	544.3	554.7	562.9
25°	514.2	515.8	516.7	519.1	522.4	522.4	524.8	530.4	538.5	547.4	555.6
27.5°	505.3	506.9	507.7	510.2	513.4	512.5	515.8	519.9	527.2	535.3	541.8
30°	490.6	491.5	493.2	493.9	496.3	496.3	498.8	502.9	507.7	515.1	521.5
32.5°	467.2	468.7	469.6	470.4	472.9	472.0	472.9	475.3	480.2	486.6	490.6
35°	434.7	438.0	438.0	439.6	440.4	439.6	439.6	442.8	445.3	450.1	452.6
37.5°	399.0	401.5	400.6	402.3	403.1	400.6	402.3	403.1	406.3	408.8	409.6
40°	364.1	365.0	365.0	365.0	365.0	364.1	365.0	365.7	368.3	368.3	365.7
42.5°	332.5	333.4	333.4	331.7	333.4	332.5	332.5	332.5	332.5	329.2	326.8
45°	304.9	305.8	305.8	304.9	304.9	303.3	302.6	301.7	299.3	295.2	289.6
47.5°	279.0	280.6	281.4	279.8	279.0	277.4	277.4	272.6	269.3	264.4	256.3
50°	254.7	256.3	256.3	254.7	254.7	252.2	249.8	248.1	243.3	237.7	227.9
52.5°	223.9	226.2	226.2	225.5	225.5	222.2	221.4	218.2	214.1	207.6	199.5
55°	186.6	189.8	189.0	188.2	186.6	186.6	186.6	184.1	181.7	176.8	168.7
57.5°	159.8	160.5	160.5	159.8	159.8	158.1	158.1	155.7	154.9	150.1	143.5
60°	142.8	142.8	143.5	142.8	141.9	141.1	140.3	138.7	136.2	133.1	128.2
62.5°	128.9	129.8	129.8	128.9	128.2	127.3	126.5	124.9	123.3	120.9	116.0
65°	113.5	115.2	114.3	113.5	112.7	111.9	111.9	110.3	108.7	107.0	102.2
67.5°	96.5	97.3	98.1	96.5	96.5	95.7	95.7	94.1	93.3	90.0	86.8
70°	78.7	79.4	79.4	78.7	78.7	77.8	77.8	77.1	76.3	73.8	70.5
72.5°	61.7	62.4	61.7	60.8	60.8	60.8	60.1	59.2	58.4	56.8	54.4
75°	45.4	45.4	46.2	45.4	44.6	44.6	43.8	43.8	42.2	41.4	38.9
77.5°	32.5	33.2	32.5	32.5	31.6	30.8	30.8	30.0	30.0	29.2	27.6
80°	21.9	21.9	22.7	21.9	21.0	21.9	21.0	20.3	20.3	19.5	17.9
82.5°	13.7	14.6	13.7	13.7	13.7	13.7	13.7	13.0	13.0	12.2	11.3
85°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	7.3	7.3	7.3	6.5
87.5°	4.0	4.0	3.3	3.3	4.0	4.0	4.0	3.3	3.3	3.3	3.3
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°	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3
2.5°	612.4	613.1	614.8	617.2	617.2	615.5	619.7	619.7	621.3	622.1	625.3
5°	605.9	607.5	610.8	614.8	615.5	614.8	620.4	622.9	625.3	627.8	632.7
7.5°	600.2	603.4	609.1	614.8	617.2	617.2	626.1	629.4	634.3	639.1	644.8
10°	596.9	601.8	609.9	618.8	621.3	623.7	634.3	640.7	647.2	653.7	661.9
12.5°	592.9	601.8	612.4	623.7	628.6	631.8	646.4	654.6	663.5	671.6	682.1
15°	592.1	602.6	616.4	631.0	637.4	642.3	658.6	669.9	680.5	691.1	701.5
17.5°	588.9	601.8	618.8	635.1	643.1	649.7	668.3	682.1	694.2	704.8	717.0
20°	584.8	599.4	618.1	635.8	644.8	651.3	671.6	684.5	698.4	708.1	719.4
22.5°	579.1	593.6	612.4	630.1	638.3	644.0	664.2	675.6	687.8	697.5	708.1
25°	569.3	583.2	599.4	614.0	622.1	627.0	644.8	655.3	664.2	674.0	683.8
27.5°	555.6	566.2	579.9	590.5	595.3	600.2	614.8	623.7	631.8	640.0	646.4
30°	531.2	539.4	549.1	558.0	562.9	563.7	577.5	582.3	588.9	594.5	599.4
32.5°	498.8	505.3	510.9	515.8	519.1	519.9	530.4	532.1	538.5	538.5	545.8
35°	457.4	460.7	464.7	464.7	467.2	464.7	472.0	473.6	474.5	475.3	481.0
37.5°	410.4	412.1	414.5	409.6	409.6	407.2	409.6	411.2	407.9	407.9	412.1
40°	365.7	362.6	359.3	354.4	352.0	347.1	347.1	343.1	340.7	339.0	339.8
42.5°	322.8	315.5	308.2	297.6	292.8	287.9	283.0	277.4	275.7	271.7	269.3
45°	281.4	270.9	261.1	244.1	234.4	229.5	219.0	207.6	200.3	198.7	192.2
47.5°	246.5	231.1	214.9	194.7	185.0	176.0	160.5	150.9	141.1	136.2	132.2
50°	215.8	202.0	180.9	159.0	146.8	137.9	120.9	109.5	99.0	91.6	86.8
52.5°	189.0	173.6	154.1	128.9	116.8	107.0	88.4	75.4	66.5	59.2	53.5
55°	159.0	146.8	127.3	103.9	91.6	80.3	64.1	50.3	41.4	36.5	32.5
57.5°	137.1	126.5	107.9	85.1	73.8	63.2	47.1	35.6	28.3	23.5	21.0
60°	122.5	112.7	96.5	74.6	64.1	54.4	38.9	28.3	21.9	17.9	16.2
62.5°	110.3	100.6	86.0	65.7	56.8	47.1	33.2	23.5	17.9	14.6	12.2
65°	96.5	87.6	74.6	56.8	48.7	40.5	28.3	19.5	14.6	11.3	9.7
67.5°	82.0	73.8	62.4	47.1	40.5	34.1	22.7	16.2	12.2	9.7	8.1
70°	66.5	60.1	49.5	38.2	32.5	26.8	18.6	13.0	8.9	7.3	6.5
72.5°	51.1	45.4	38.2	29.2	24.3	20.3	13.7	9.7	7.3	5.7	4.9
75°	36.5	32.5	26.8	21.0	17.9	14.6	10.6	7.3	4.9	4.0	3.3
77.5°	25.2	22.7	18.6	14.6	12.2	10.6	7.3	4.9	4.0	3.3	2.4
80°	16.2	14.6	12.2	8.9	7.3	6.5	4.0	3.3	2.4	1.6	1.6
82.5°	9.7	8.9	7.3	4.9	4.0	3.3	2.4	1.6	1.6	0.8	0.8
85°	5.7	4.9	3.3	2.4	2.4	1.6	1.6	0.8	0.8	0.0	0.0
87.5°	2.4	1.6	1.6	0.8	0.8	0.8	0.8	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3
2.5°	623.7	627.8	627.0	629.4	628.6	628.6	632.7	631.0	635.1	635.1	635.8
5°	632.7	638.3	638.3	642.3	641.6	643.1	647.2	647.2	652.1	653.7	653.7
7.5°	645.6	652.9	654.6	658.6	659.3	662.6	665.9	666.7	673.2	674.8	675.6
10°	663.5	672.3	674.8	678.9	680.5	683.8	687.8	689.4	697.5	698.4	701.5
12.5°	685.3	695.1	697.5	702.4	703.2	707.2	713.0	714.5	722.7	725.1	727.5
15°	706.4	715.4	719.4	724.3	725.1	730.0	734.8	736.4	743.7	747.0	749.4
17.5°	721.0	731.6	734.0	740.6	740.6	744.6	749.4	751.0	758.3	760.8	762.4
20°	724.3	734.0	737.3	742.1	742.9	745.3	749.4	751.0	757.6	758.3	760.8
22.5°	712.1	721.8	723.4	728.3	729.1	731.6	734.8	734.0	742.1	741.3	742.1
25°	686.2	695.1	695.1	700.8	699.9	702.4	704.0	703.2	710.5	710.5	710.5
27.5°	648.9	657.0	657.7	661.9	659.3	660.2	661.9	661.0	665.9	665.9	665.9
30°	602.6	609.1	606.7	609.9	608.2	609.9	608.2	607.5	609.1	610.8	609.9
32.5°	545.0	549.9	549.9	550.7	550.7	545.8	544.3	544.3	543.4	542.6	542.6
35°	478.5	482.6	481.0	481.0	480.2	475.3	472.9	471.3	473.6	468.7	472.0
37.5°	410.4	411.2	408.8	407.9	403.9	403.9	399.9	396.6	398.2	397.5	394.2
40°	335.8	339.0	334.1	332.5	335.0	331.7	327.7	323.6	326.8	322.8	324.5
42.5°	262.8	262.0	260.4	260.4	260.4	255.5	254.7	253.8	254.7	251.4	249.0
45°	189.8	187.3	185.0	185.0	181.7	180.0	180.0	177.6	173.6	173.6	168.7
47.5°	128.2	122.5	120.9	120.0	118.5	118.5	116.8	115.2	114.3	110.3	110.3
50°	83.6	77.8	76.3	75.4	76.3	74.6	73.0	71.4	69.7	69.0	67.4
52.5°	50.3	47.8	46.2	45.4	43.8	42.9	42.2	40.5	39.8	39.8	38.9
55°	30.0	27.6	24.3	24.3	24.3	23.5	22.7	21.9	21.0	21.0	20.3
57.5°	18.6	17.0	15.4	14.6	14.6	14.6	13.7	13.7	13.7	13.7	13.0
60°	13.7	12.2	11.3	11.3	11.3	10.6	10.6	10.6	10.6	9.7	9.7
62.5°	10.6	9.7	8.9	8.9	8.1	8.1	8.1	8.1	8.1	8.1	7.3
65°	8.9	7.3	7.3	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
67.5°	6.5	5.7	5.7	5.7	5.7	4.9	4.9	4.9	4.9	4.9	4.9
70°	4.9	4.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
72.5°	4.0	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
75°	3.3	3.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
77.5°	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	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	0.0	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°	621.3	621.3	621.3	621.3	621.3	621.3	621.3	621.3
2.5°	635.8	640.0	635.8	635.8	638.3	637.4	639.1	636.7
5°	654.6	660.2	656.2	655.3	659.3	658.6	659.3	657.7
7.5°	677.2	682.9	678.9	678.9	682.9	682.1	684.5	682.9
10°	703.2	709.7	704.0	704.8	710.5	709.7	709.7	709.7
12.5°	730.0	736.4	733.2	733.2	737.3	738.0	738.9	738.0
15°	751.9	758.3	754.3	754.3	759.9	759.2	759.9	759.2
17.5°	764.8	771.3	766.5	766.5	771.3	771.3	772.1	772.9
20°	761.6	768.9	764.8	763.2	768.9	768.9	768.1	768.1
22.5°	742.9	749.4	746.2	744.6	748.6	747.0	746.2	747.0
25°	710.5	717.0	710.5	710.5	713.7	713.0	713.7	713.0
27.5°	666.7	671.6	665.0	664.2	667.5	665.9	665.0	667.5
30°	608.2	613.1	609.9	607.5	611.5	609.1	607.5	608.2
32.5°	541.8	545.0	543.4	539.4	541.8	540.1	539.4	540.1
35°	468.7	472.9	466.4	465.6	469.6	466.4	464.7	468.7
37.5°	393.3	398.2	392.6	393.3	390.9	391.7	390.2	392.6
40°	321.9	321.2	319.6	318.8	319.6	317.1	318.8	316.3
42.5°	244.9	246.5	245.8	244.9	245.8	242.5	240.9	244.1
45°	170.3	169.5	168.0	166.3	166.3	165.4	165.4	163.0
47.5°	109.5	108.7	105.4	106.3	107.9	106.3	103.9	107.0
50°	66.5	65.7	65.7	64.9	66.5	64.9	63.2	63.2
52.5°	37.3	37.3	36.5	36.5	36.5	36.5	35.6	34.9
55°	20.3	19.5	19.5	19.5	18.6	18.6	18.6	18.6
57.5°	13.0	13.0	13.0	13.0	13.0	13.0	12.2	12.2
60°	9.7	9.7	9.7	9.7	8.9	9.7	8.9	8.9
62.5°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
65°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
67.5°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
70°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
72.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
75°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)