

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: P843321

Luminaire Tested: **LD4C10DE010B35 EU4C10B35 4LBSWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843321
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: LD4C10DE010B35 EU4C10B35 4LBSWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

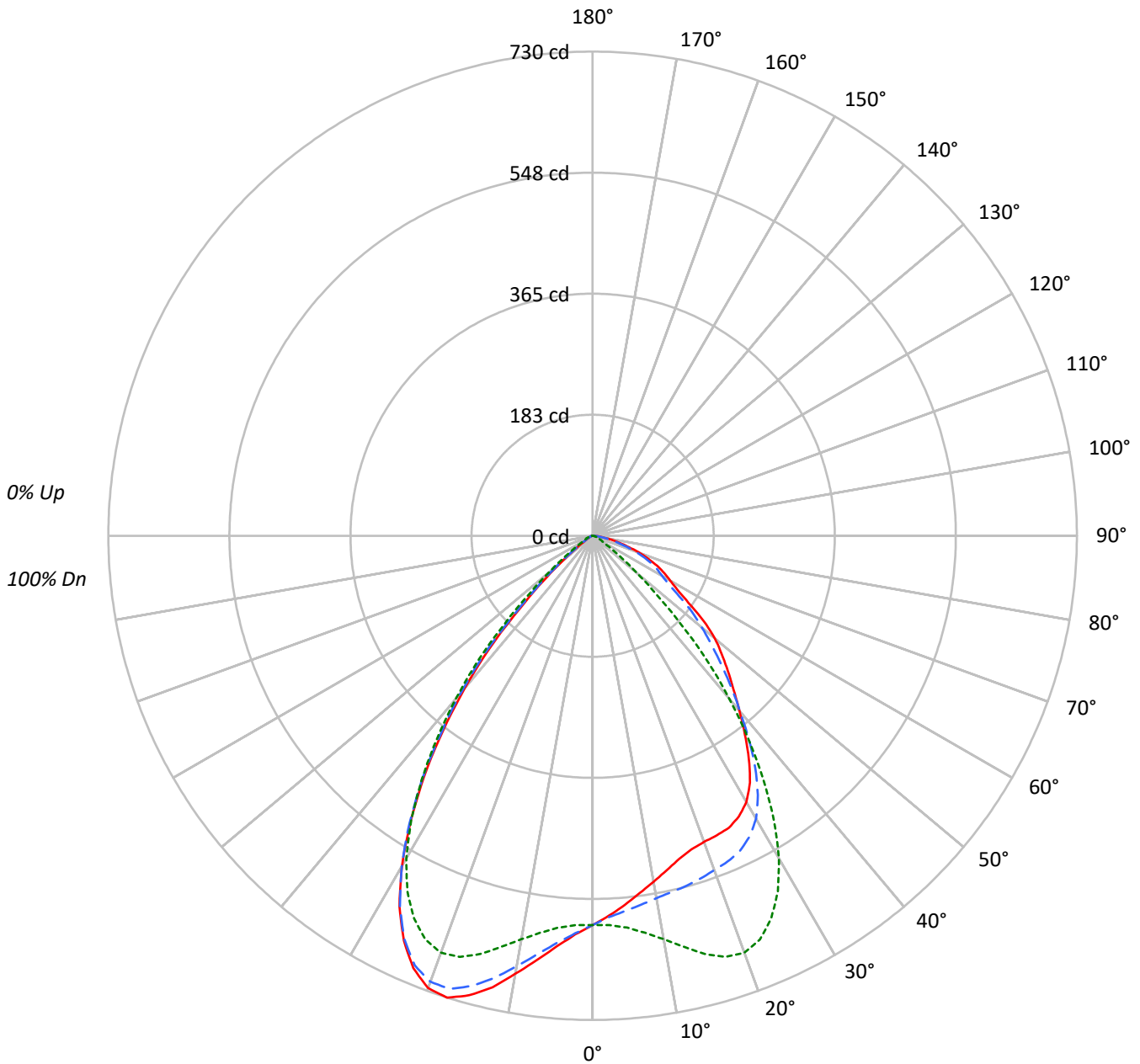
Lumens per Lamp: N/A
Luminaire Lumens: 1083.0 lumens
Efficiency: N/A
Efficacy: 81.4 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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°	72103	72103	72103
5°	68876	73130	76633
10°	66054	77045	83632
15°	64128	83028	91219
20°	64205	87438	94850
25°	65852	86307	91295
30°	65766	79668	81512
35°	61595	67339	66410
40°	55153	51368	47920
45°	50055	32611	26756
50°	45985	16552	11429
55°	37740	7390	3791
60°	33121	4152	2089
65°	31163	3110	1570
70°	26724	2478	1365
75°	20363	1804	1092
80°	14645	1061	495
85°	10713	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.0	5.3
10°-20°	177.7	16.4
20°-30°	274.9	25.4
30°-40°	270.8	25.0
40°-50°	166.3	15.4
50°-60°	73.9	6.8
60°-70°	41.3	3.8
70°-80°	17.9	1.6
80°-90°	3.2	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°	509.6	47.1
0°-40°	780.4	72.1
0°-60°	1020.6	94.2
0°-90°	1083.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1083.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	587	587	587	587	587	
5°	558	568	593	616	621	52
15°	504	546	653	703	717	143
25°	486	525	637	671	674	223
35°	411	428	449	448	443	255
45°	288	274	188	164	154	223
55°	176	159	34	20	18	162
65°	107	97	11	6	5	105
75°	43	37	4	2	2	47
85°	8	6	0	0	0	9
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°	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9
2.5°	573.1	573.1	573.1	573.1	574.6	572.3	574.6	574.6	576.9	577.7	575.4
5°	558.5	557.8	558.5	558.5	560.0	559.3	561.6	563.1	566.3	567.7	567.7
7.5°	543.2	543.2	543.2	544.8	547.0	546.3	548.6	550.9	555.5	558.5	560.9
10°	529.5	528.7	530.9	531.7	534.0	534.0	537.8	540.1	545.5	551.7	554.7
12.5°	516.3	515.6	517.2	519.5	523.3	523.3	526.4	530.2	537.8	544.8	550.1
15°	504.2	504.9	507.2	508.7	513.3	513.3	517.2	521.7	530.2	538.7	546.3
17.5°	495.7	496.5	498.0	500.3	504.9	504.9	508.7	514.1	523.3	532.5	541.7
20°	491.1	491.9	493.4	495.7	499.5	500.3	503.4	509.5	517.9	527.9	536.3
22.5°	488.8	490.3	491.9	493.4	497.2	497.2	501.1	505.7	514.1	524.1	531.7
25°	485.8	487.3	488.1	490.3	493.4	493.4	495.7	501.1	508.7	517.2	524.8
27.5°	477.3	478.9	479.6	482.0	485.0	484.2	487.3	491.1	498.0	505.7	511.8
30°	463.6	464.3	465.8	466.6	468.8	468.8	471.2	475.0	479.6	486.5	492.6
32.5°	441.4	442.8	443.6	444.4	446.6	445.9	446.6	449.0	453.5	459.8	463.6
35°	410.7	413.7	413.7	415.2	416.1	415.2	415.2	418.3	420.6	425.2	427.5
37.5°	376.9	379.3	378.5	380.0	380.7	378.5	380.0	380.7	383.8	386.1	386.9
40°	343.9	344.8	344.8	344.8	344.8	343.9	344.8	345.5	347.9	347.9	345.5
42.5°	314.1	314.9	314.9	313.4	314.9	314.1	314.1	314.1	314.1	311.1	308.7
45°	288.1	288.8	288.8	288.1	288.1	286.5	285.8	285.0	282.7	278.9	273.5
47.5°	263.6	265.0	265.9	264.3	263.6	262.0	262.0	257.4	254.4	249.8	242.1
50°	240.6	242.1	242.1	240.6	240.6	238.3	236.0	234.5	229.8	224.5	215.3
52.5°	211.4	213.7	213.7	213.0	213.0	209.9	209.2	206.1	202.2	196.1	188.5
55°	176.2	179.3	178.5	177.8	176.2	176.2	176.2	173.9	171.7	167.0	159.4
57.5°	150.9	151.7	151.7	150.9	150.9	149.4	149.4	147.1	146.4	141.7	135.6
60°	134.8	134.8	135.6	134.8	134.1	133.3	132.5	131.0	128.7	125.6	121.1
62.5°	121.8	122.6	122.6	121.8	121.1	120.3	119.5	118.0	116.4	114.1	109.6
65°	107.2	108.8	108.0	107.2	106.5	105.8	105.8	104.2	102.7	101.1	96.6
67.5°	91.2	91.9	92.6	91.2	91.2	90.4	90.4	88.8	88.1	85.0	82.0
70°	74.4	75.1	75.1	74.4	74.4	73.5	73.5	72.8	72.0	69.7	66.6
72.5°	58.3	59.0	58.3	57.4	57.4	57.4	56.7	55.9	55.2	53.6	51.3
75°	42.9	42.9	43.7	42.9	42.1	42.1	41.4	41.4	39.9	39.1	36.8
77.5°	30.7	31.4	30.7	30.7	29.8	29.1	29.1	28.3	28.3	27.6	26.0
80°	20.7	20.7	21.5	20.7	19.9	20.7	19.9	19.1	19.1	18.4	16.9
82.5°	13.0	13.7	13.0	13.0	13.0	13.0	13.0	12.3	12.3	11.5	10.7
85°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	6.9	6.9	6.9	6.1
87.5°	3.8	3.8	3.1	3.1	3.8	3.8	3.8	3.1	3.1	3.1	3.1
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°	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9
2.5°	578.4	579.2	580.7	583.1	583.1	581.5	585.4	585.4	586.9	587.6	590.7
5°	572.3	573.9	576.9	580.7	581.5	580.7	586.1	588.5	590.7	593.0	597.6
7.5°	567.0	570.1	575.4	580.7	583.1	583.1	591.5	594.5	599.1	603.7	609.1
10°	563.9	568.5	576.2	584.6	586.9	589.2	599.1	605.3	611.4	617.6	625.2
12.5°	560.0	568.5	578.4	589.2	593.8	596.8	610.7	618.3	626.8	634.4	644.3
15°	559.3	569.3	582.3	596.1	602.2	606.8	622.1	632.9	642.8	652.8	662.7
17.5°	556.2	568.5	584.6	599.9	607.6	613.7	631.3	644.3	655.8	665.8	677.3
20°	552.4	566.3	583.8	600.6	609.1	615.2	634.4	646.6	659.6	668.8	679.6
22.5°	547.0	560.9	578.4	595.3	603.0	608.4	627.5	638.2	649.7	658.9	668.8
25°	537.8	550.9	566.3	580.0	587.6	592.3	609.1	619.0	627.5	636.7	645.9
27.5°	524.8	534.7	547.9	557.8	562.3	567.0	580.7	589.2	596.8	604.5	610.7
30°	501.8	509.5	518.7	527.1	531.7	532.5	545.5	550.1	556.2	561.6	566.3
32.5°	471.2	477.3	482.7	487.3	490.3	491.1	501.1	502.6	508.7	508.7	515.6
35°	432.1	435.2	439.0	439.0	441.4	439.0	445.9	447.5	448.2	449.0	454.4
37.5°	387.6	389.2	391.5	386.9	386.9	384.6	386.9	388.5	385.4	385.4	389.2
40°	345.5	342.5	339.4	334.8	332.5	327.9	327.9	324.1	321.7	320.3	321.0
42.5°	304.9	298.0	291.2	281.1	276.6	272.0	267.4	262.0	260.5	256.7	254.4
45°	265.9	255.9	246.7	230.7	221.5	216.8	206.9	196.1	189.2	187.7	181.6
47.5°	232.9	218.3	203.1	183.9	174.7	166.3	151.7	142.6	133.3	128.7	124.9
50°	203.8	190.8	170.8	150.2	138.7	130.2	114.1	103.4	93.5	86.6	82.0
52.5°	178.5	163.9	145.5	121.8	110.3	101.1	83.6	71.3	62.8	55.9	50.6
55°	150.2	138.7	120.3	98.0	86.6	75.8	60.5	47.5	39.1	34.5	30.7
57.5°	129.5	119.5	102.0	80.5	69.7	59.8	44.4	33.7	26.8	22.2	19.9
60°	115.7	106.5	91.2	70.4	60.5	51.3	36.8	26.8	20.7	16.9	15.3
62.5°	104.2	95.0	81.2	62.1	53.6	44.4	31.4	22.2	16.9	13.7	11.5
65°	91.2	82.7	70.4	53.6	46.0	38.3	26.8	18.4	13.7	10.7	9.2
67.5°	77.4	69.7	59.0	44.4	38.3	32.2	21.5	15.3	11.5	9.2	7.6
70°	62.8	56.7	46.7	36.1	30.7	25.3	17.7	12.3	8.5	6.9	6.1
72.5°	48.2	42.9	36.1	27.6	23.0	19.1	13.0	9.2	6.9	5.4	4.5
75°	34.5	30.7	25.3	19.9	16.9	13.7	9.9	6.9	4.5	3.8	3.1
77.5°	23.7	21.5	17.7	13.7	11.5	9.9	6.9	4.5	3.8	3.1	2.3
80°	15.3	13.7	11.5	8.5	6.9	6.1	3.8	3.1	2.3	1.5	1.5
82.5°	9.2	8.5	6.9	4.5	3.8	3.1	2.3	1.5	1.5	0.7	0.7
85°	5.4	4.5	3.1	2.3	2.3	1.5	1.5	0.7	0.7	0.0	0.0
87.5°	2.3	1.5	1.5	0.7	0.7	0.7	0.7	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°	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9
2.5°	589.2	593.0	592.3	594.5	593.8	593.8	597.6	596.1	599.9	599.9	600.6
5°	597.6	603.0	603.0	606.8	606.0	607.6	611.4	611.4	616.0	617.6	617.6
7.5°	609.8	616.8	618.3	622.1	622.8	625.9	629.1	629.8	636.0	637.4	638.2
10°	626.8	635.1	637.4	641.2	642.8	645.9	649.7	651.3	658.9	659.6	662.7
12.5°	647.4	656.6	658.9	663.5	664.3	668.1	673.5	675.0	682.6	684.9	687.3
15°	667.4	675.7	679.6	684.2	684.9	689.6	694.1	695.7	702.6	705.7	708.0
17.5°	681.1	691.1	693.4	699.5	699.5	703.3	708.0	709.5	716.3	718.7	720.2
20°	684.2	693.4	696.5	701.0	701.8	704.1	708.0	709.5	715.6	716.3	718.7
22.5°	672.7	681.9	683.4	688.0	688.7	691.1	694.1	693.4	701.0	700.3	701.0
25°	648.2	656.6	656.6	662.0	661.2	663.5	665.0	664.3	671.2	671.2	671.2
27.5°	612.9	620.6	621.4	625.2	622.8	623.7	625.2	624.4	629.1	629.1	629.1
30°	569.3	575.4	573.1	576.2	574.6	576.2	574.6	573.9	575.4	576.9	576.2
32.5°	514.9	519.5	519.5	520.3	520.3	515.6	514.1	514.1	513.3	512.5	512.5
35°	452.0	455.8	454.4	454.4	453.5	449.0	446.6	445.2	447.5	442.8	445.9
37.5°	387.6	388.5	386.1	385.4	381.6	381.6	377.8	374.6	376.2	375.5	372.4
40°	317.2	320.3	315.7	314.1	316.4	313.4	309.6	305.7	308.7	304.9	306.5
42.5°	248.2	247.5	245.9	245.9	245.9	241.4	240.6	239.8	240.6	237.5	235.2
45°	179.3	176.9	174.7	174.7	171.7	170.1	170.1	167.8	163.9	163.9	159.4
47.5°	121.1	115.7	114.1	113.4	111.9	111.9	110.3	108.8	108.0	104.2	104.2
50°	78.9	73.5	72.0	71.3	72.0	70.4	69.0	67.4	65.9	65.2	63.6
52.5°	47.5	45.2	43.7	42.9	41.4	40.6	39.9	38.3	37.5	37.5	36.8
55°	28.3	26.0	23.0	23.0	23.0	22.2	21.5	20.7	19.9	19.9	19.1
57.5°	17.7	16.1	14.6	13.7	13.7	13.7	13.0	13.0	13.0	13.0	12.3
60°	13.0	11.5	10.7	10.7	10.7	9.9	9.9	9.9	9.9	9.2	9.2
62.5°	9.9	9.2	8.5	8.5	7.6	7.6	7.6	7.6	7.6	7.6	6.9
65°	8.5	6.9	6.9	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
67.5°	6.1	5.4	5.4	5.4	5.4	4.5	4.5	4.5	4.5	4.5	4.5
70°	4.5	4.5	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
72.5°	3.8	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
75°	3.1	3.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
80°	1.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	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°	586.9	586.9	586.9	586.9	586.9	586.9	586.9	586.9
2.5°	600.6	604.5	600.6	600.6	603.0	602.2	603.7	601.5
5°	618.3	623.7	619.8	619.0	622.8	622.1	622.8	621.4
7.5°	639.8	645.2	641.2	641.2	645.2	644.3	646.6	645.2
10°	664.3	670.4	665.0	665.8	671.2	670.4	670.4	670.4
12.5°	689.6	695.7	692.6	692.6	696.5	697.2	698.0	697.2
15°	710.2	716.3	712.5	712.5	717.9	717.2	717.9	717.2
17.5°	722.5	728.6	724.1	724.1	728.6	728.6	729.3	730.2
20°	719.4	726.3	722.5	721.0	726.3	726.3	725.5	725.5
22.5°	701.8	708.0	704.9	703.3	707.1	705.7	704.9	705.7
25°	671.2	677.3	671.2	671.2	674.2	673.5	674.2	673.5
27.5°	629.8	634.4	628.2	627.5	630.6	629.1	628.2	630.6
30°	574.6	579.2	576.2	573.9	577.7	575.4	573.9	574.6
32.5°	511.8	514.9	513.3	509.5	511.8	510.3	509.5	510.3
35°	442.8	446.6	440.6	439.8	443.6	440.6	439.0	442.8
37.5°	371.5	376.2	370.8	371.5	369.3	370.1	368.5	370.8
40°	304.2	303.4	301.8	301.1	301.8	299.5	301.1	298.8
42.5°	231.4	232.9	232.2	231.4	232.2	229.1	227.6	230.7
45°	160.9	160.1	158.6	157.1	157.1	156.3	156.3	154.0
47.5°	103.4	102.7	99.6	100.4	102.0	100.4	98.0	101.1
50°	62.8	62.1	62.1	61.3	62.8	61.3	59.8	59.8
52.5°	35.2	35.2	34.5	34.5	34.5	34.5	33.7	33.0
55°	19.1	18.4	18.4	18.4	17.7	17.7	17.7	17.7
57.5°	12.3	12.3	12.3	12.3	12.3	12.3	11.5	11.5
60°	9.2	9.2	9.2	9.2	8.5	9.2	8.5	8.5
62.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
65°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
67.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
70°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
72.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
75°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)