

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P251523

Luminaire Tested: **LD4B15D010 EU4B10209027 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251523
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-10)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10209027 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1133.0 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

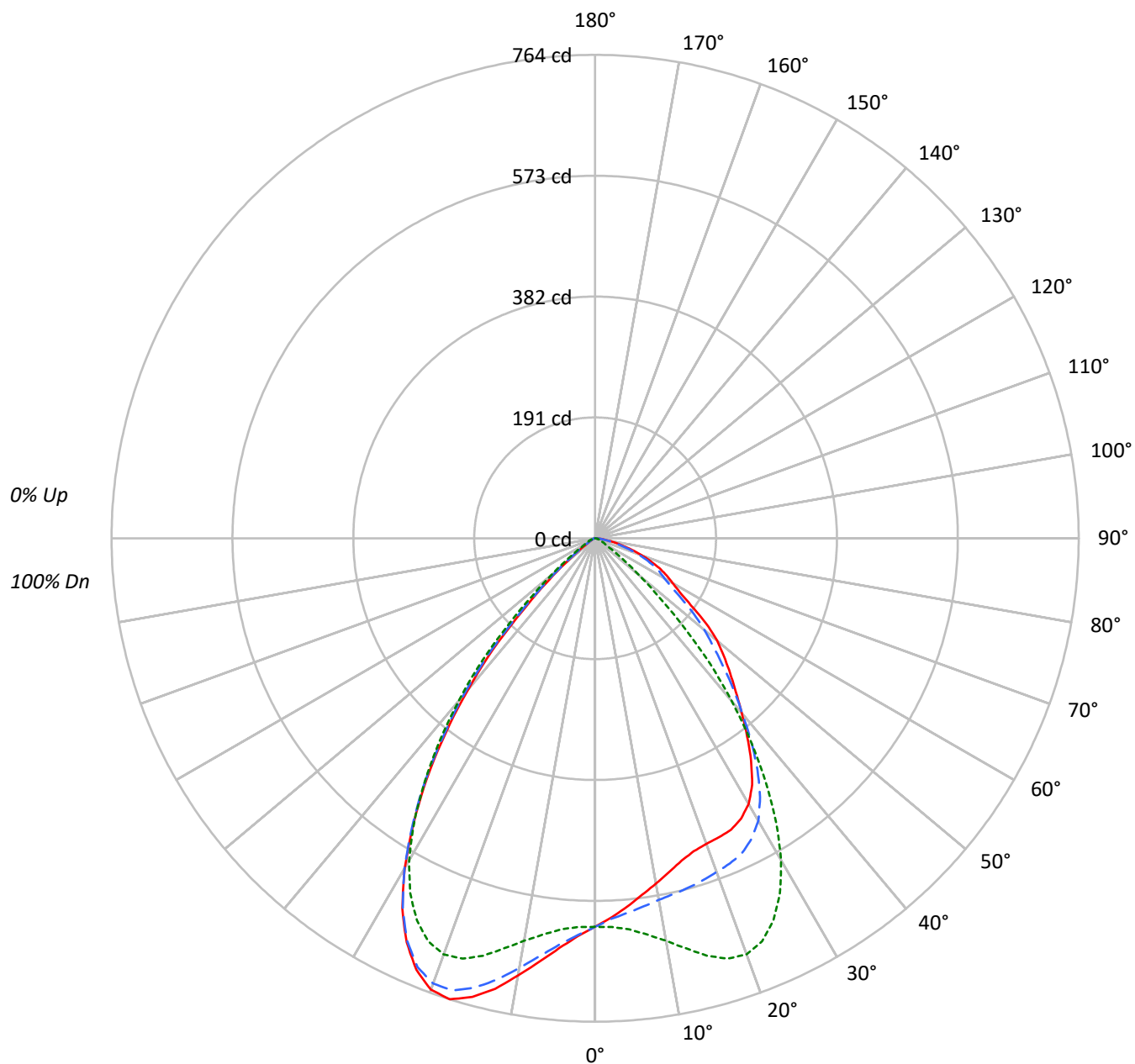
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	112	108	105	102	109	106	103	101	102	100	98		98	96	95		95
2	104	98	93	89	102	96	92	88	93	89	86		90	87	84		87
3	97	89	83	78	95	88	82	77	85	80	76		82	78	75		80
4	91	81	75	69	89	80	74	69	78	72	68		76	71	67		74
5	85	75	67	62	83	74	67	62	72	66	61		70	65	60		68
6	79	69	61	56	78	68	61	56	66	60	55		64	59	55		63
7	75	63	56	51	73	62	55	51	61	55	50		60	54	50		58
8	70	58	51	46	69	58	51	46	57	50	46		55	50	46		54
9	66	54	47	42	65	54	47	42	53	46	42		52	46	42		51
10	62	51	44	39	61	50	43	39	49	43	39		48	43	39		47

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	59839	59839	59839
5°	57162	60694	63590
10°	54815	63929	69402
15°	53213	68902	75692
20°	53288	72568	78718
25°	54648	71628	75757
30°	54568	66114	67645
35°	51111	55882	55121
40°	45787	42620	39770
45°	41541	27069	22204
50°	38162	13737	9476
55°	31332	6134	3126
60°	27503	3431	1715
65°	25874	2583	1291
70°	22140	2052	1140
75°	16907	1506	904
80°	12123	898	449
85°	8946	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.6	5.3
10°-20°	185.9	16.4
20°-30°	287.6	25.4
30°-40°	283.3	25.0
40°-50°	174.0	15.4
50°-60°	77.4	6.8
60°-70°	43.2	3.8
70°-80°	18.7	1.7
80°-90°	3.3	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°	533.1	47.1
0°-40°	816.4	72.1
0°-60°	1067.7	94.2
0°-90°	1133.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1133.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	614	614	614	614	614	
5°	584	594	620	644	650	55
15°	527	572	683	735	750	150
25°	508	549	666	702	704	233
35°	430	447	470	468	463	267
45°	301	286	196	172	161	233
55°	184	167	36	21	18	169
65°	112	101	11	6	6	110
75°	45	38	4	2	2	49
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°	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0
2.5°	599.5	599.5	599.5	599.5	601.1	598.7	601.1	601.1	603.6	604.4	601.9
5°	584.3	583.5	584.3	584.3	585.9	585.1	587.5	589.1	592.3	593.9	593.9
7.5°	568.3	568.3	568.3	569.9	572.3	571.5	573.9	576.3	581.1	584.3	586.7
10°	553.9	553.1	555.5	556.3	558.7	558.7	562.7	565.1	570.7	577.1	580.3
12.5°	540.2	539.4	541.0	543.4	547.4	547.4	550.6	554.7	562.7	569.9	575.5
15°	527.4	528.2	530.6	532.2	537.0	537.0	541.0	545.8	554.7	563.5	571.5
17.5°	518.6	519.4	521.0	523.4	528.2	528.2	532.2	537.8	547.4	557.1	566.7
20°	513.8	514.6	516.2	518.6	522.6	523.4	526.6	533.0	541.8	552.3	561.1
22.5°	511.4	513.0	514.6	516.2	520.2	520.2	524.2	529.0	537.8	548.2	556.3
25°	508.2	509.8	510.6	513.0	516.2	516.2	518.6	524.2	532.2	541.0	549.0
27.5°	499.4	501.0	501.8	504.2	507.4	506.6	509.8	513.8	521.0	529.0	535.4
30°	484.9	485.7	487.3	488.1	490.5	490.5	492.9	496.9	501.8	509.0	515.4
32.5°	461.7	463.3	464.1	464.9	467.3	466.5	467.3	469.7	474.5	480.9	484.9
35°	429.6	432.8	432.8	434.4	435.2	434.4	434.4	437.6	440.0	444.8	447.3
37.5°	394.4	396.8	396.0	397.6	398.4	396.0	397.6	398.4	401.6	404.0	404.8
40°	359.9	360.7	360.7	360.7	360.7	359.9	360.7	361.5	363.9	363.9	361.5
42.5°	328.6	329.4	329.4	327.8	329.4	328.6	328.6	328.6	328.6	325.4	323.0
45°	301.4	302.2	302.2	301.4	301.4	299.8	299.0	298.2	295.8	291.8	286.1
47.5°	275.7	277.3	278.1	276.5	275.7	274.1	274.1	269.3	266.1	261.3	253.3
50°	251.7	253.3	253.3	251.7	251.7	249.3	246.9	245.3	240.5	234.8	225.2
52.5°	221.2	223.6	223.6	222.8	222.8	219.6	218.8	215.6	211.6	205.2	197.2
55°	184.4	187.6	186.8	186.0	184.4	184.4	184.4	181.9	179.5	174.7	166.7
57.5°	157.9	158.7	158.7	157.9	157.9	156.3	156.3	153.9	153.1	148.3	141.9
60°	141.1	141.1	141.9	141.1	140.3	139.5	138.7	137.1	134.7	131.5	126.6
62.5°	127.4	128.2	128.2	127.4	126.6	125.8	125.0	123.4	121.8	119.4	114.6
65°	112.2	113.8	113.0	112.2	111.4	110.6	110.6	109.0	107.4	105.8	101.0
67.5°	95.4	96.2	97.0	95.4	95.4	94.6	94.6	93.0	92.2	89.0	85.8
70°	77.7	78.5	78.5	77.7	77.7	76.9	76.9	76.1	75.3	72.9	69.7
72.5°	60.9	61.7	60.9	60.1	60.1	60.1	59.3	58.5	57.7	56.1	53.7
75°	44.9	44.9	45.7	44.9	44.1	44.1	43.3	43.3	41.7	40.9	38.5
77.5°	32.1	32.9	32.1	32.1	31.3	30.5	30.5	29.7	29.7	28.9	27.3
80°	21.6	21.6	22.4	21.6	20.8	21.6	20.8	20.0	20.0	19.2	17.6
82.5°	13.6	14.4	13.6	13.6	13.6	13.6	13.6	12.8	12.8	12.0	11.2
85°	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.2	7.2	7.2	6.4
87.5°	4.0	4.0	3.2	3.2	4.0	4.0	4.0	3.2	3.2	3.2	3.2
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°	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0
2.5°	605.2	606.0	607.6	610.0	610.0	608.4	612.4	612.4	614.0	614.8	618.0
5°	598.7	600.3	603.6	607.6	608.4	607.6	613.2	615.6	618.0	620.4	625.2
7.5°	593.1	596.3	601.9	607.6	610.0	610.0	618.8	622.0	626.8	631.6	637.2
10°	589.9	594.7	602.7	611.6	614.0	616.4	626.8	633.2	639.6	646.0	654.0
12.5°	585.9	594.7	605.2	616.4	621.2	624.4	638.8	646.8	655.6	663.7	674.1
15°	585.1	595.5	609.2	623.6	630.0	634.8	650.8	662.1	672.5	682.9	693.3
17.5°	581.9	594.7	611.6	627.6	635.6	642.0	660.5	674.1	686.1	696.5	708.6
20°	577.9	592.3	610.8	628.4	637.2	643.6	663.7	676.5	690.1	699.7	711.0
22.5°	572.3	586.7	605.2	622.8	630.8	636.4	656.5	667.7	679.7	689.3	699.7
25°	562.7	576.3	592.3	606.8	614.8	619.6	637.2	647.6	656.5	666.1	675.7
27.5°	549.0	559.5	573.1	583.5	588.3	593.1	607.6	616.4	624.4	632.4	638.8
30°	525.0	533.0	542.6	551.5	556.3	557.1	570.7	575.5	581.9	587.5	592.3
32.5°	492.9	499.4	505.0	509.8	513.0	513.8	524.2	525.8	532.2	532.2	539.4
35°	452.1	455.3	459.3	459.3	461.7	459.3	466.5	468.1	468.9	469.7	475.3
37.5°	405.6	407.2	409.6	404.8	404.8	402.4	404.8	406.4	403.2	403.2	407.2
40°	361.5	358.3	355.1	350.3	347.9	343.1	343.1	339.0	336.6	335.0	335.8
42.5°	319.0	311.8	304.6	294.2	289.4	284.5	279.7	274.1	272.5	268.5	266.1
45°	278.1	267.7	258.1	241.3	231.6	226.8	216.4	205.2	198.0	196.4	190.0
47.5°	243.7	228.4	212.4	192.4	182.7	173.9	158.7	149.1	139.5	134.7	130.6
50°	213.2	199.6	178.7	157.1	145.1	136.3	119.4	108.2	97.8	90.6	85.8
52.5°	186.8	171.5	152.3	127.4	115.4	105.8	87.4	74.5	65.7	58.5	52.9
55°	157.1	145.1	125.8	102.6	90.6	79.4	63.3	49.7	40.9	36.1	32.1
57.5°	135.5	125.0	106.6	84.2	72.9	62.5	46.5	35.3	28.1	23.2	20.8
60°	121.0	111.4	95.4	73.7	63.3	53.7	38.5	28.1	21.6	17.6	16.0
62.5°	109.0	99.4	85.0	64.9	56.1	46.5	32.9	23.2	17.6	14.4	12.0
65°	95.4	86.6	73.7	56.1	48.1	40.1	28.1	19.2	14.4	11.2	9.6
67.5°	81.0	72.9	61.7	46.5	40.1	33.7	22.4	16.0	12.0	9.6	8.0
70°	65.7	59.3	48.9	37.7	32.1	26.5	18.4	12.8	8.8	7.2	6.4
72.5°	50.5	44.9	37.7	28.9	24.0	20.0	13.6	9.6	7.2	5.6	4.8
75°	36.1	32.1	26.5	20.8	17.6	14.4	10.4	7.2	4.8	4.0	3.2
77.5°	24.8	22.4	18.4	14.4	12.0	10.4	7.2	4.8	4.0	3.2	2.4
80°	16.0	14.4	12.0	8.8	7.2	6.4	4.0	3.2	2.4	1.6	1.6
82.5°	9.6	8.8	7.2	4.8	4.0	3.2	2.4	1.6	1.6	0.8	0.8
85°	5.6	4.8	3.2	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°	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0
2.5°	616.4	620.4	619.6	622.0	621.2	621.2	625.2	623.6	627.6	627.6	628.4
5°	625.2	630.8	630.8	634.8	634.0	635.6	639.6	639.6	644.4	646.0	646.0
7.5°	638.0	645.2	646.8	650.8	651.6	654.8	658.1	658.9	665.3	666.9	667.7
10°	655.6	664.5	666.9	670.9	672.5	675.7	679.7	681.3	689.3	690.1	693.3
12.5°	677.3	686.9	689.3	694.1	694.9	698.9	704.5	706.1	714.2	716.6	719.0
15°	698.1	706.9	711.0	715.8	716.6	721.4	726.2	727.8	735.0	738.2	740.6
17.5°	712.6	723.0	725.4	731.8	731.8	735.8	740.6	742.2	749.4	751.8	753.4
20°	715.8	725.4	728.6	733.4	734.2	736.6	740.6	742.2	748.6	749.4	751.8
22.5°	703.7	713.4	715.0	719.8	720.6	723.0	726.2	725.4	733.4	732.6	733.4
25°	678.1	686.9	686.9	692.5	691.7	694.1	695.7	694.9	702.1	702.1	702.1
27.5°	641.2	649.2	650.0	654.0	651.6	652.4	654.0	653.2	658.1	658.1	658.1
30°	595.5	601.9	599.5	602.7	601.1	602.7	601.1	600.3	601.9	603.6	602.7
32.5°	538.6	543.4	543.4	544.2	544.2	539.4	537.8	537.8	537.0	536.2	536.2
35°	472.9	476.9	475.3	475.3	474.5	469.7	467.3	465.7	468.1	463.3	466.5
37.5°	405.6	406.4	404.0	403.2	399.2	399.2	395.2	391.9	393.6	392.7	389.5
40°	331.8	335.0	330.2	328.6	331.0	327.8	323.8	319.8	323.0	319.0	320.6
42.5°	259.7	258.9	257.3	257.3	257.3	252.5	251.7	250.9	251.7	248.5	246.1
45°	187.6	185.2	182.7	182.7	179.5	177.9	177.9	175.5	171.5	171.5	166.7
47.5°	126.6	121.0	119.4	118.6	117.0	117.0	115.4	113.8	113.0	109.0	109.0
50°	82.6	76.9	75.3	74.5	75.3	73.7	72.1	70.5	68.9	68.1	66.5
52.5°	49.7	47.3	45.7	44.9	43.3	42.5	41.7	40.1	39.3	39.3	38.5
55°	29.7	27.3	24.0	24.0	24.0	23.2	22.4	21.6	20.8	20.8	20.0
57.5°	18.4	16.8	15.2	14.4	14.4	14.4	13.6	13.6	13.6	13.6	12.8
60°	13.6	12.0	11.2	11.2	11.2	10.4	10.4	10.4	10.4	9.6	9.6
62.5°	10.4	9.6	8.8	8.8	8.0	8.0	8.0	8.0	8.0	8.0	7.2
65°	8.8	7.2	7.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
67.5°	6.4	5.6	5.6	5.6	5.6	4.8	4.8	4.8	4.8	4.8	4.8
70°	4.8	4.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
72.5°	4.0	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
75°	3.2	3.2	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°	614.0	614.0	614.0	614.0	614.0	614.0	614.0	614.0
2.5°	628.4	632.4	628.4	628.4	630.8	630.0	631.6	629.2
5°	646.8	652.4	648.4	647.6	651.6	650.8	651.6	650.0
7.5°	669.3	674.9	670.9	670.9	674.9	674.1	676.5	674.9
10°	694.9	701.3	695.7	696.5	702.1	701.3	701.3	701.3
12.5°	721.4	727.8	724.6	724.6	728.6	729.4	730.2	729.4
15°	743.0	749.4	745.4	745.4	751.0	750.2	751.0	750.2
17.5°	755.8	762.3	757.4	757.4	762.3	762.3	763.1	763.9
20°	752.6	759.8	755.8	754.2	759.8	759.8	759.0	759.0
22.5°	734.2	740.6	737.4	735.8	739.8	738.2	737.4	738.2
25°	702.1	708.6	702.1	702.1	705.3	704.5	705.3	704.5
27.5°	658.9	663.7	657.3	656.5	659.7	658.1	657.3	659.7
30°	601.1	606.0	602.7	600.3	604.4	601.9	600.3	601.1
32.5°	535.4	538.6	537.0	533.0	535.4	533.8	533.0	533.8
35°	463.3	467.3	460.9	460.1	464.1	460.9	459.3	463.3
37.5°	388.7	393.6	387.9	388.7	386.3	387.1	385.5	387.9
40°	318.2	317.4	315.8	315.0	315.8	313.4	315.0	312.6
42.5°	242.1	243.7	242.9	242.1	242.9	239.7	238.1	241.3
45°	168.3	167.5	165.9	164.3	164.3	163.5	163.5	161.1
47.5°	108.2	107.4	104.2	105.0	106.6	105.0	102.6	105.8
50°	65.7	64.9	64.9	64.1	65.7	64.1	62.5	62.5
52.5°	36.9	36.9	36.1	36.1	36.1	36.1	35.3	34.5
55°	20.0	19.2	19.2	19.2	18.4	18.4	18.4	18.4
57.5°	12.8	12.8	12.8	12.8	12.8	12.8	12.0	12.0
60°	9.6	9.6	9.6	9.6	8.8	9.6	8.8	8.8
62.5°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
65°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
67.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
70°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
72.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
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)