

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: P251517

Luminaire Tested: **LD4B15D010 EU4B10208027 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251517
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 EU4B10208027 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1320.0 lumens
Efficiency: N/A
Efficacy: 91.7 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

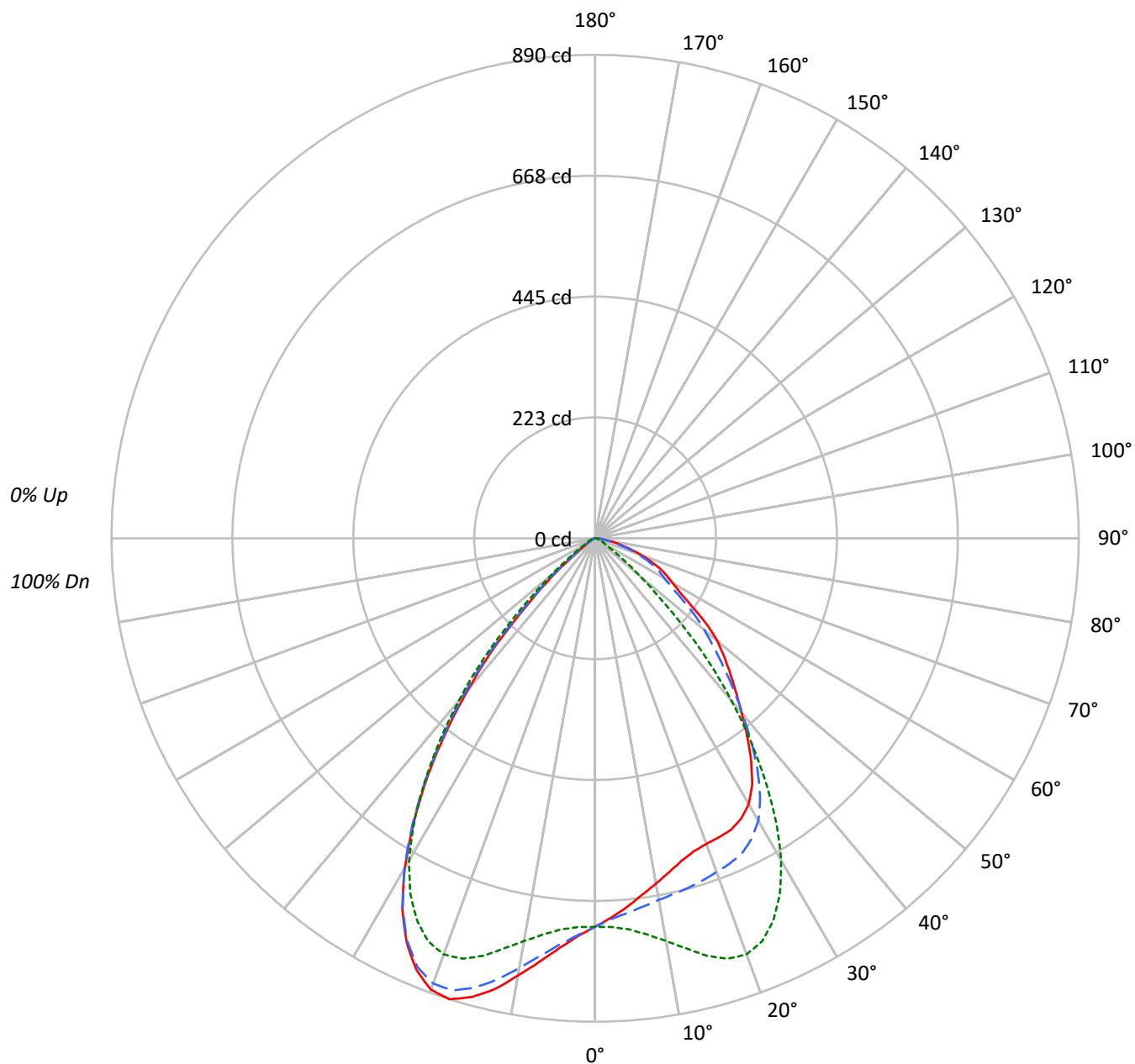
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	69712	69712	69712
5°	66603	70712	74087
10°	63860	74488	80861
15°	62001	80273	88193
20°	62082	84547	91713
25°	63660	83446	88263
30°	63582	77030	78819
35°	59547	65103	64210
40°	53344	49655	46334
45°	48391	31535	25870
50°	44454	15996	11038
55°	36497	7136	3653
60°	32044	3996	2008
65°	30140	3021	1499
70°	25816	2394	1339
75°	19694	1770	1054
80°	14143	1066	505
85°	10399	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.5	5.3
10°-20°	216.5	16.4
20°-30°	335.0	25.4
30°-40°	330.1	25.0
40°-50°	202.7	15.4
50°-60°	90.1	6.8
60°-70°	50.3	3.8
70°-80°	21.8	1.7
80°-90°	3.9	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°	621.1	47.1
0°-40°	951.2	72.1
0°-60°	1244.0	94.2
0°-90°	1320.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1320.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	715	715	715	715	715	
5°	681	692	723	751	757	64
15°	614	666	796	856	874	174
25°	592	640	776	818	821	272
35°	500	521	547	545	540	311
45°	351	333	229	200	188	272
55°	215	194	42	24	22	197
65°	131	118	13	8	6	128
75°	52	45	5	3	3	58
85°	9	8	0	0	0	12
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°	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3
2.5°	698.5	698.5	698.5	698.5	700.4	697.6	700.4	700.4	703.2	704.1	701.3
5°	680.8	679.8	680.8	680.8	682.6	681.7	684.5	686.4	690.1	692.0	692.0
7.5°	662.1	662.1	662.1	663.9	666.7	665.8	668.6	671.4	677.0	680.8	683.6
10°	645.3	644.3	647.1	648.1	650.9	650.9	655.5	658.3	664.9	672.3	676.1
12.5°	629.4	628.5	630.3	633.1	637.8	637.8	641.5	646.2	655.5	663.9	670.5
15°	614.5	615.4	618.2	620.1	625.7	625.7	630.3	635.9	646.2	656.5	665.8
17.5°	604.2	605.1	607.0	609.8	615.4	615.4	620.1	626.6	637.8	649.0	660.2
20°	598.6	599.5	601.4	604.2	608.8	609.8	613.5	621.0	631.3	643.4	653.7
22.5°	595.8	597.6	599.5	601.4	606.0	606.0	610.7	616.3	626.6	638.7	648.1
25°	592.0	593.9	594.8	597.6	601.4	601.4	604.2	610.7	620.1	630.3	639.7
27.5°	581.8	583.6	584.6	587.4	591.1	590.2	593.9	598.6	607.0	616.3	623.8
30°	565.0	565.9	567.8	568.7	571.5	571.5	574.3	579.0	584.6	593.0	600.4
32.5°	537.9	539.7	540.7	541.6	544.4	543.5	544.4	547.2	552.8	560.3	565.0
35°	500.5	504.3	504.3	506.1	507.1	506.1	506.1	509.9	512.7	518.3	521.1
37.5°	459.4	462.2	461.3	463.2	464.1	461.3	463.2	464.1	467.8	470.6	471.6
40°	419.3	420.2	420.2	420.2	420.2	419.3	420.2	421.2	424.0	424.0	421.2
42.5°	382.9	383.8	383.8	381.9	383.8	382.9	382.9	382.9	382.9	379.1	376.3
45°	351.1	352.0	352.0	351.1	351.1	349.2	348.3	347.4	344.6	339.9	333.4
47.5°	321.2	323.1	324.0	322.2	321.2	319.4	319.4	313.8	310.0	304.4	295.1
50°	293.2	295.1	295.1	293.2	293.2	290.4	287.6	285.7	280.1	273.6	262.4
52.5°	257.7	260.5	260.5	259.6	259.6	255.9	254.9	251.2	246.5	239.1	229.7
55°	214.8	218.5	217.6	216.6	214.8	214.8	214.8	212.0	209.2	203.6	194.2
57.5°	184.0	184.9	184.9	184.0	184.0	182.1	182.1	179.3	178.4	172.8	165.3
60°	164.4	164.4	165.3	164.4	163.4	162.5	161.6	159.7	156.9	153.1	147.5
62.5°	148.5	149.4	149.4	148.5	147.5	146.6	145.7	143.8	141.9	139.1	133.5
65°	130.7	132.6	131.7	130.7	129.8	128.9	128.9	127.0	125.1	123.3	117.7
67.5°	111.1	112.1	113.0	111.1	111.1	110.2	110.2	108.3	107.4	103.7	99.9
70°	90.6	91.5	91.5	90.6	90.6	89.6	89.6	88.7	87.8	85.0	81.2
72.5°	71.0	71.9	71.0	70.0	70.0	70.0	69.1	68.2	67.2	65.4	62.6
75°	52.3	52.3	53.2	52.3	51.4	51.4	50.4	50.4	48.6	47.6	44.8
77.5°	37.4	38.3	37.4	37.4	36.4	35.5	35.5	34.6	34.6	33.6	31.7
80°	25.2	25.2	26.1	25.2	24.3	25.2	24.3	23.3	23.3	22.4	20.5
82.5°	15.9	16.8	15.9	15.9	15.9	15.9	15.9	14.9	14.9	14.0	13.1
85°	9.3	9.3	9.3	9.3	9.3	9.3	9.3	8.4	8.4	8.4	7.5
87.5°	4.7	4.7	3.7	3.7	4.7	4.7	4.7	3.7	3.7	3.7	3.7
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°	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3
2.5°	705.0	706.0	707.8	710.6	710.6	708.8	713.4	713.4	715.3	716.2	720.0
5°	697.6	699.4	703.2	707.8	708.8	707.8	714.4	717.2	720.0	722.8	728.4
7.5°	691.0	694.8	701.3	707.8	710.6	710.6	720.9	724.6	730.2	735.8	742.4
10°	687.3	692.9	702.2	712.5	715.3	718.1	730.2	737.7	745.2	752.7	762.0
12.5°	682.6	692.9	705.0	718.1	723.7	727.4	744.3	753.6	763.9	773.2	785.3
15°	681.7	693.8	709.7	726.5	734.0	739.6	758.3	771.3	783.5	795.6	807.8
17.5°	678.0	692.9	712.5	731.2	740.5	748.0	769.5	785.3	799.3	811.5	825.5
20°	673.3	690.1	711.6	732.1	742.4	749.9	773.2	788.1	804.0	815.2	828.3
22.5°	666.7	683.6	705.0	725.6	734.9	741.5	764.8	777.9	791.9	803.1	815.2
25°	655.5	671.4	690.1	706.9	716.2	721.8	742.4	754.5	764.8	776.0	787.2
27.5°	639.7	651.8	667.7	679.8	685.4	691.0	707.8	718.1	727.4	736.8	744.3
30°	611.7	621.0	632.2	642.5	648.1	649.0	664.9	670.5	678.0	684.5	690.1
32.5°	574.3	581.8	588.3	593.9	597.6	598.6	610.7	612.6	620.1	620.1	628.5
35°	526.7	530.4	535.1	535.1	537.9	535.1	543.5	545.3	546.3	547.2	553.8
37.5°	472.5	474.4	477.2	471.6	471.6	468.8	471.6	473.4	469.7	469.7	474.4
40°	421.2	417.4	413.7	408.1	405.3	399.7	399.7	395.0	392.2	390.3	391.3
42.5°	371.7	363.3	354.9	342.7	337.1	331.5	325.9	319.4	317.5	312.8	310.0
45°	324.0	311.9	300.7	281.1	269.9	264.3	252.1	239.1	230.7	228.8	221.3
47.5°	283.9	266.1	247.5	224.1	212.9	202.6	184.9	173.7	162.5	156.9	152.2
50°	248.4	232.5	208.2	183.0	169.0	158.7	139.1	126.1	113.9	105.5	99.9
52.5°	217.6	199.8	177.4	148.5	134.5	123.3	101.8	86.8	76.6	68.2	61.6
55°	183.0	169.0	146.6	119.5	105.5	92.4	73.8	57.9	47.6	42.0	37.4
57.5°	157.8	145.7	124.2	98.1	85.0	72.8	54.2	41.1	32.7	27.1	24.3
60°	141.0	129.8	111.1	85.9	73.8	62.6	44.8	32.7	25.2	20.5	18.7
62.5°	127.0	115.8	99.0	75.6	65.4	54.2	38.3	27.1	20.5	16.8	14.0
65°	111.1	100.9	85.9	65.4	56.0	46.7	32.7	22.4	16.8	13.1	11.2
67.5°	94.3	85.0	71.9	54.2	46.7	39.2	26.1	18.7	14.0	11.2	9.3
70°	76.6	69.1	57.0	43.9	37.4	30.8	21.5	14.9	10.3	8.4	7.5
72.5°	58.8	52.3	43.9	33.6	28.0	23.3	15.9	11.2	8.4	6.5	5.6
75°	42.0	37.4	30.8	24.3	20.5	16.8	12.1	8.4	5.6	4.7	3.7
77.5°	28.9	26.1	21.5	16.8	14.0	12.1	8.4	5.6	4.7	3.7	2.8
80°	18.7	16.8	14.0	10.3	8.4	7.5	4.7	3.7	2.8	1.9	1.9
82.5°	11.2	10.3	8.4	5.6	4.7	3.7	2.8	1.9	1.9	0.9	0.9
85°	6.5	5.6	3.7	2.8	2.8	1.9	1.9	0.9	0.9	0.0	0.0
87.5°	2.8	1.9	1.9	0.9	0.9	0.9	0.9	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°	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3
2.5°	718.1	722.8	721.8	724.6	723.7	723.7	728.4	726.5	731.2	731.2	732.1
5°	728.4	734.9	734.9	739.6	738.7	740.5	745.2	745.2	750.8	752.7	752.7
7.5°	743.3	751.7	753.6	758.3	759.2	762.9	766.7	767.6	775.1	776.9	777.9
10°	763.9	774.1	776.9	781.6	783.5	787.2	791.9	793.7	803.1	804.0	807.8
12.5°	789.1	800.3	803.1	808.7	809.6	814.3	820.8	822.7	832.0	834.8	837.6
15°	813.4	823.6	828.3	833.9	834.8	840.4	846.0	847.9	856.3	860.0	862.8
17.5°	830.2	842.3	845.1	852.6	852.6	857.2	862.8	864.7	873.1	875.9	877.8
20°	833.9	845.1	848.8	854.4	855.4	858.2	862.8	864.7	872.2	873.1	875.9
22.5°	819.9	831.1	833.0	838.6	839.5	842.3	846.0	845.1	854.4	853.5	854.4
25°	790.0	800.3	800.3	806.8	805.9	808.7	810.6	809.6	818.0	818.0	818.0
27.5°	747.1	756.4	757.3	762.0	759.2	760.1	762.0	761.1	766.7	766.7	766.7
30°	693.8	701.3	698.5	702.2	700.4	702.2	700.4	699.4	701.3	703.2	702.2
32.5°	627.5	633.1	633.1	634.1	634.1	628.5	626.6	626.6	625.7	624.7	624.7
35°	551.0	555.6	553.8	553.8	552.8	547.2	544.4	542.5	545.3	539.7	543.5
37.5°	472.5	473.4	470.6	469.7	465.0	465.0	460.4	456.6	458.5	457.6	453.8
40°	386.6	390.3	384.7	382.9	385.7	381.9	377.3	372.6	376.3	371.7	373.5
42.5°	302.6	301.6	299.8	299.8	299.8	294.2	293.2	292.3	293.2	289.5	286.7
45°	218.5	215.7	212.9	212.9	209.2	207.3	207.3	204.5	199.8	199.8	194.2
47.5°	147.5	141.0	139.1	138.2	136.3	136.3	134.5	132.6	131.7	127.0	127.0
50°	96.2	89.6	87.8	86.8	87.8	85.9	84.0	82.2	80.3	79.4	77.5
52.5°	57.9	55.1	53.2	52.3	50.4	49.5	48.6	46.7	45.8	45.8	44.8
55°	34.6	31.7	28.0	28.0	28.0	27.1	26.1	25.2	24.3	24.3	23.3
57.5°	21.5	19.6	17.7	16.8	16.8	16.8	15.9	15.9	15.9	15.9	14.9
60°	15.9	14.0	13.1	13.1	13.1	12.1	12.1	12.1	12.1	11.2	11.2
62.5°	12.1	11.2	10.3	10.3	9.3	9.3	9.3	9.3	9.3	9.3	8.4
65°	10.3	8.4	8.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
67.5°	7.5	6.5	6.5	6.5	6.5	5.6	5.6	5.6	5.6	5.6	5.6
70°	5.6	5.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
72.5°	4.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
75°	3.7	3.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
77.5°	2.8	2.8	2.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82.5°	0.9	0.9	0.9	0.9	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°	715.3	715.3	715.3	715.3	715.3	715.3	715.3	715.3
2.5°	732.1	736.8	732.1	732.1	734.9	734.0	735.8	733.0
5°	753.6	760.1	755.5	754.5	759.2	758.3	759.2	757.3
7.5°	779.7	786.3	781.6	781.6	786.3	785.3	788.1	786.3
10°	809.6	817.1	810.6	811.5	818.0	817.1	817.1	817.1
12.5°	840.4	847.9	844.2	844.2	848.8	849.8	850.7	849.8
15°	865.6	873.1	868.5	868.5	875.0	874.1	875.0	874.1
17.5°	880.6	888.1	882.5	882.5	888.1	888.1	889.0	889.9
20°	876.9	885.3	880.6	878.7	885.3	885.3	884.3	884.3
22.5°	855.4	862.8	859.1	857.2	861.9	860.0	859.1	860.0
25°	818.0	825.5	818.0	818.0	821.8	820.8	821.8	820.8
27.5°	767.6	773.2	765.7	764.8	768.5	766.7	765.7	768.5
30°	700.4	706.0	702.2	699.4	704.1	701.3	699.4	700.4
32.5°	623.8	627.5	625.7	621.0	623.8	621.9	621.0	621.9
35°	539.7	544.4	536.9	536.0	540.7	536.9	535.1	539.7
37.5°	452.9	458.5	452.0	452.9	450.1	451.0	449.2	452.0
40°	370.7	369.8	367.9	367.0	367.9	365.1	367.0	364.2
42.5°	282.0	283.9	282.9	282.0	282.9	279.2	277.3	281.1
45°	196.1	195.2	193.3	191.4	191.4	190.5	190.5	187.7
47.5°	126.1	125.1	121.4	122.3	124.2	122.3	119.5	123.3
50°	76.6	75.6	75.6	74.7	76.6	74.7	72.8	72.8
52.5°	43.0	43.0	42.0	42.0	42.0	42.0	41.1	40.2
55°	23.3	22.4	22.4	22.4	21.5	21.5	21.5	21.5
57.5°	14.9	14.9	14.9	14.9	14.9	14.9	14.0	14.0
60°	11.2	11.2	11.2	11.2	10.3	11.2	10.3	10.3
62.5°	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
65°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
67.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
70°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
72.5°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
75°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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)