

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: P251765

Luminaire Tested: **LD4B20D010 EU4B10208030 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251765
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B20D010 EU4B10208030 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1549.0 lumens
Efficiency: N/A
Efficacy: 74.5 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

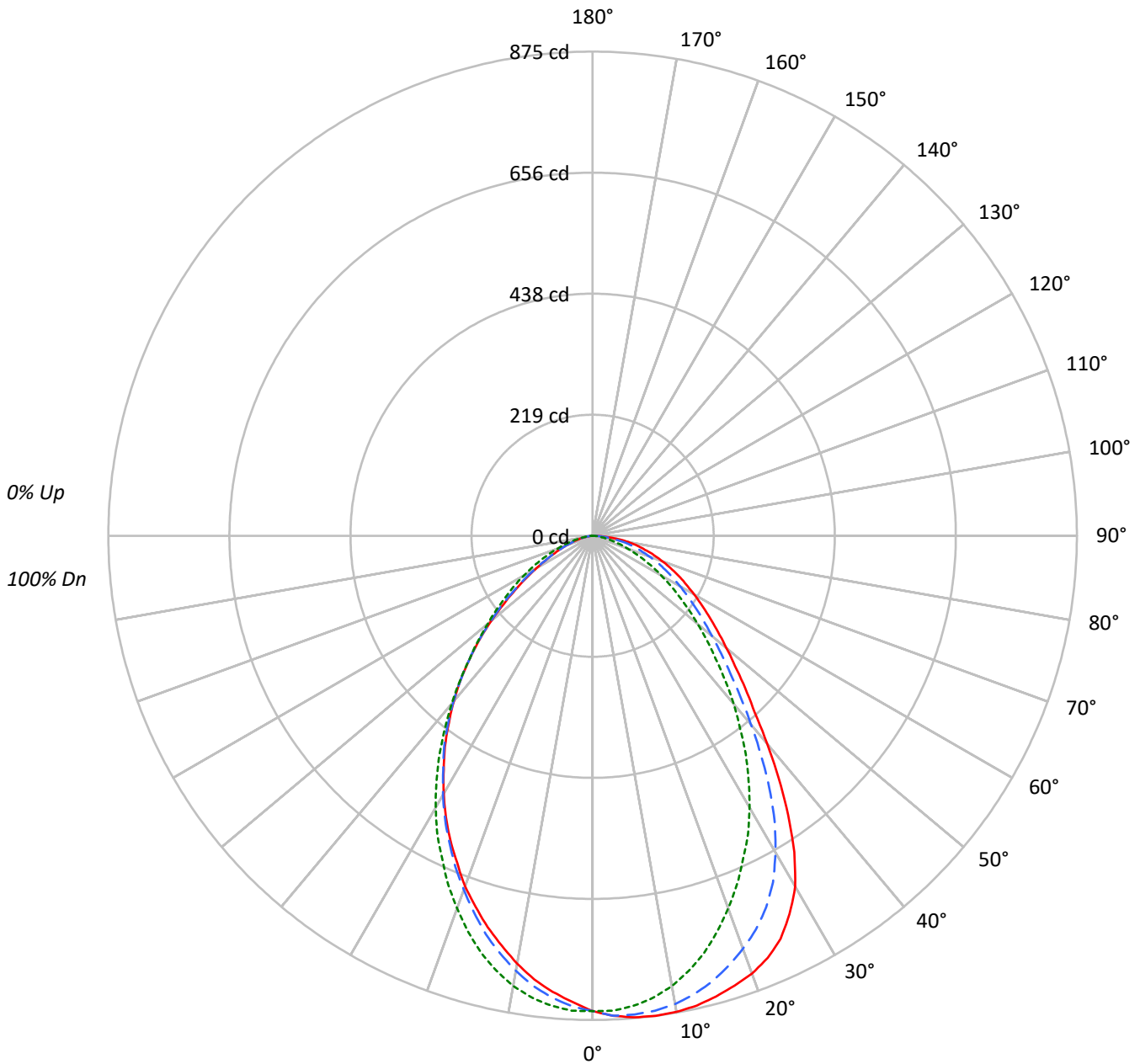
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					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				100				
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88				88				
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76				76				
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67				67				
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59				59				
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52				52				
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47				47				
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42				42				
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38				38				
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				35				
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	83726	83726	83726
5°	85465	83400	80935
10°	86453	81742	77695
15°	86942	78679	73876
20°	87316	74289	69902
25°	86414	69208	65380
30°	82398	63807	60533
35°	73276	57393	55347
40°	62377	50444	49604
45°	53739	43346	43167
50°	47896	37465	36267
55°	44007	32334	28970
60°	41225	27815	22669
65°	39618	23476	17687
70°	38041	18835	14304
75°	36827	14911	10958
80°	37098	10383	6679
85°	31086	7380	2907



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.4	5.2
10°-20°	221.1	14.3
20°-30°	309.2	20.0
30°-40°	317.8	20.5
40°-50°	257.9	16.7
50°-60°	181.6	11.7
60°-70°	111.8	7.2
70°-80°	55.8	3.6
80°-90°	13.3	0.9
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°	610.7	39.4
0°-40°	928.5	59.9
0°-60°	1368.1	88.3
0°-90°	1549.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1549.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	859	859	859	859	859	
5°	874	868	852	838	827	83
15°	862	834	780	745	732	243
25°	804	741	644	612	608	367
35°	616	556	482	468	465	383
45°	390	352	314	314	313	303
55°	259	227	190	174	170	233
65°	172	144	102	78	77	170
75°	98	77	40	29	29	104
85°	28	18	7	4	3	32
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°	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1
2.5°	868.3	869.6	865.7	869.6	864.4	867.0	868.3	865.7	863.0	868.3	868.3
5°	873.6	873.6	869.6	874.9	868.3	869.6	872.3	868.3	864.4	869.6	868.3
7.5°	874.9	874.9	869.6	874.9	868.3	869.6	871.0	867.0	863.0	867.0	865.7
10°	873.6	872.3	868.3	873.6	867.0	867.0	868.3	864.4	857.7	861.7	859.1
12.5°	869.6	869.6	864.4	869.6	860.4	860.4	861.7	856.4	851.1	851.1	848.5
15°	861.7	861.7	856.4	860.4	852.5	852.5	851.1	845.8	839.2	839.2	834.0
17.5°	852.5	852.5	847.2	851.1	841.9	841.9	840.6	832.6	823.4	822.1	815.5
20°	841.9	841.9	835.3	837.9	827.3	827.3	826.0	816.8	806.2	803.6	794.3
22.5°	826.0	826.0	819.4	820.7	810.2	808.8	807.5	796.9	786.4	782.4	770.5
25°	803.6	802.2	796.9	796.9	786.4	783.7	781.1	770.5	759.9	752.0	741.4
27.5°	770.5	771.8	765.2	766.6	753.3	750.7	749.4	736.2	724.3	716.3	705.8
30°	732.2	728.2	721.6	721.6	711.0	709.7	707.1	695.2	682.0	672.7	660.8
32.5°	678.0	676.7	670.1	670.1	658.2	658.2	652.9	641.0	629.1	623.8	611.9
35°	615.9	614.6	609.3	609.3	598.7	600.0	594.7	585.5	573.6	565.7	556.4
37.5°	552.4	551.1	545.8	547.2	537.9	537.9	533.9	524.7	515.4	511.5	499.6
40°	490.3	489.0	482.4	486.4	478.4	475.8	474.5	467.9	457.3	452.0	445.4
42.5°	433.5	434.8	428.2	430.9	424.2	421.6	420.3	415.0	407.1	401.8	395.2
45°	389.9	387.2	384.6	384.6	378.0	376.7	375.3	368.7	363.5	358.2	351.6
47.5°	348.9	346.3	343.6	344.9	339.7	338.3	335.7	330.4	323.8	321.2	314.5
50°	315.9	314.5	310.6	310.6	305.3	304.0	301.3	297.4	290.8	286.8	281.5
52.5°	285.5	285.5	281.5	280.2	276.2	274.9	273.6	268.3	263.0	257.7	252.4
55°	259.0	257.7	255.1	255.1	249.8	248.5	247.1	241.9	236.6	232.6	227.3
57.5°	233.9	233.9	231.3	231.3	227.3	224.7	224.7	219.4	212.8	210.1	203.5
60°	211.5	211.5	208.8	208.8	204.9	204.9	202.2	196.9	193.0	187.7	182.4
62.5°	190.3	191.6	189.0	187.7	183.7	182.4	182.4	178.4	171.8	167.8	162.6
65°	171.8	170.5	169.2	167.8	163.9	162.6	162.6	157.3	153.3	148.0	144.1
67.5°	152.0	152.0	149.3	149.3	146.7	145.4	142.7	138.8	134.8	130.8	126.9
70°	133.5	133.5	132.2	132.2	128.2	126.9	125.6	121.6	117.6	113.7	108.4
72.5°	116.3	115.0	113.7	113.7	111.0	109.7	108.4	104.4	100.4	96.5	92.5
75°	97.8	97.8	96.5	96.5	93.8	92.5	92.5	89.9	84.6	81.9	76.7
77.5°	81.9	81.9	80.6	80.6	78.0	78.0	76.7	72.7	70.0	66.1	63.4
80°	66.1	64.8	64.8	63.4	60.8	60.8	59.5	58.2	54.2	51.5	47.6
82.5°	46.3	46.3	46.3	44.9	43.6	43.6	42.3	39.6	37.0	35.7	31.7
85°	27.8	27.8	26.4	25.1	26.4	25.1	23.8	22.5	21.1	19.8	18.5
87.5°	11.9	11.9	10.6	10.6	10.6	10.6	10.6	9.3	7.9	7.9	6.6
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°	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1
2.5°	860.4	864.4	863.0	861.7	859.1	859.1	859.1	857.7	859.1	859.1	856.4
5°	860.4	863.0	861.7	859.1	856.4	856.4	855.1	852.5	852.5	852.5	847.2
7.5°	856.4	859.1	855.1	852.5	849.8	847.2	847.2	843.2	843.2	841.9	836.6
10°	848.5	849.8	844.5	841.9	837.9	836.6	834.0	828.7	827.3	826.0	820.7
12.5°	836.6	837.9	831.3	826.0	820.7	819.4	816.8	810.2	807.5	804.9	798.3
15°	819.4	819.4	811.5	804.9	799.6	798.3	791.7	785.1	782.4	779.8	770.5
17.5°	799.6	798.3	787.7	781.1	774.5	771.8	765.2	757.3	752.0	749.4	741.4
20°	778.4	774.5	762.6	756.0	748.0	744.1	737.5	726.9	721.6	716.3	708.4
22.5°	753.3	748.0	734.8	725.6	717.6	713.7	704.4	695.2	687.3	682.0	672.7
25°	722.9	716.3	701.8	689.9	683.3	679.3	670.1	659.5	651.6	643.6	635.7
27.5°	687.3	679.3	664.8	652.9	646.3	639.7	633.1	621.2	614.6	608.0	598.7
30°	643.6	634.4	621.2	610.6	602.7	597.4	589.5	578.9	570.9	567.0	557.7
32.5°	596.1	585.5	573.6	563.0	559.1	552.4	545.8	535.3	528.7	524.7	518.1
35°	543.2	535.3	522.0	514.1	507.5	504.9	499.6	489.0	486.4	482.4	474.5
37.5°	487.7	481.1	471.8	465.2	459.9	457.3	452.0	445.4	441.4	437.5	433.5
40°	436.1	430.9	422.9	417.6	411.0	407.1	407.1	399.1	396.5	396.5	392.5
42.5°	385.9	383.3	376.7	368.7	367.4	363.5	362.1	358.2	355.5	354.2	352.9
45°	343.6	339.7	333.1	329.1	325.1	325.1	321.2	317.2	315.9	314.5	313.2
47.5°	306.6	301.3	296.0	292.1	289.4	288.1	284.2	281.5	280.2	280.2	278.9
50°	273.6	269.6	264.3	260.4	257.7	255.1	252.4	249.8	248.5	247.1	247.1
52.5°	245.8	240.5	235.3	231.3	227.3	226.0	223.4	220.7	219.4	218.1	216.7
55°	220.7	216.7	210.1	206.2	202.2	202.2	198.2	194.3	191.6	190.3	189.0
57.5°	196.9	193.0	186.4	182.4	179.7	177.1	174.5	171.8	169.2	166.5	163.9
60°	175.8	171.8	165.2	159.9	158.6	156.0	153.3	148.0	145.4	142.7	140.1
62.5°	156.0	150.7	145.4	140.1	138.8	136.1	132.2	128.2	124.2	121.6	117.6
65°	137.5	133.5	126.9	122.9	118.9	117.6	113.7	108.4	104.4	101.8	97.8
67.5°	120.3	115.0	108.4	104.4	101.8	99.1	95.2	91.2	87.2	83.3	79.3
70°	103.1	99.1	92.5	88.5	85.9	83.3	79.3	74.0	70.0	66.1	63.4
72.5°	87.2	81.9	76.7	72.7	70.0	67.4	63.4	59.5	55.5	52.9	48.9
75°	72.7	67.4	63.4	58.2	56.8	54.2	50.2	46.3	42.3	39.6	37.0
77.5°	58.2	54.2	48.9	46.3	43.6	41.0	38.3	34.4	31.7	27.8	25.1
80°	43.6	39.6	35.7	33.0	30.4	29.1	26.4	23.8	21.1	18.5	17.2
82.5°	29.1	26.4	22.5	21.1	19.8	18.5	15.9	14.5	13.2	11.9	10.6
85°	15.9	14.5	13.2	10.6	10.6	9.3	7.9	7.9	6.6	6.6	5.3
87.5°	6.6	5.3	5.3	4.0	4.0	4.0	2.6	2.6	2.6	1.3	1.3
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1
2.5°	857.7	852.5	852.5	852.5	848.5	849.8	851.1	852.5	851.1	847.2	851.1
5°	848.5	843.2	843.2	840.6	837.9	837.9	837.9	839.2	837.9	834.0	835.3
7.5°	836.6	830.0	828.7	826.0	823.4	822.1	822.1	822.1	820.7	815.5	818.1
10°	818.1	811.5	808.8	807.5	803.6	802.2	800.9	799.6	798.3	793.0	795.6
12.5°	795.6	790.3	785.1	783.7	779.8	777.1	775.8	775.8	773.2	767.9	770.5
15°	769.2	761.3	757.3	754.7	750.7	748.0	745.4	746.7	745.4	740.1	741.4
17.5°	737.5	729.5	725.6	724.3	719.0	716.3	715.0	715.0	713.7	708.4	709.7
20°	703.1	695.2	692.5	689.9	687.3	684.6	683.3	682.0	680.6	675.4	679.3
22.5°	668.7	659.5	655.5	655.5	650.2	648.9	647.6	648.9	647.6	642.3	645.0
25°	633.1	623.8	621.2	617.2	614.6	613.2	613.2	613.2	611.9	609.3	611.9
27.5°	593.4	586.8	582.8	581.5	578.9	577.6	576.2	577.6	577.6	573.6	576.2
30°	553.8	548.5	545.8	544.5	540.5	539.2	540.5	540.5	540.5	536.6	540.5
32.5°	514.1	510.2	508.8	504.9	502.2	502.2	502.2	503.5	502.2	499.6	503.5
35°	474.5	469.2	467.9	466.5	466.5	463.9	466.5	465.2	467.9	463.9	466.5
37.5°	432.2	429.5	428.2	428.2	425.6	426.9	426.9	426.9	429.5	425.6	428.2
40°	392.5	389.9	389.9	389.9	388.6	388.6	388.6	389.9	391.2	388.6	391.2
42.5°	352.9	351.6	351.6	350.2	348.9	350.2	351.6	351.6	352.9	350.2	351.6
45°	314.5	313.2	314.5	313.2	313.2	311.9	313.2	314.5	314.5	313.2	313.2
47.5°	278.9	278.9	277.5	277.5	277.5	277.5	277.5	277.5	277.5	274.9	277.5
50°	247.1	244.5	245.8	244.5	244.5	243.2	243.2	241.9	240.5	239.2	239.2
52.5°	216.7	214.1	214.1	212.8	211.5	211.5	210.1	208.8	207.5	204.9	204.9
55°	187.7	185.0	183.7	182.4	181.1	179.7	178.4	177.1	174.5	173.1	173.1
57.5°	161.2	158.6	156.0	156.0	153.3	152.0	149.3	146.7	145.4	142.7	142.7
60°	137.5	134.8	130.8	129.5	128.2	125.6	121.6	120.3	118.9	116.3	117.6
62.5°	115.0	111.0	107.1	105.7	104.4	101.8	99.1	96.5	95.2	96.5	96.5
65°	93.8	89.9	87.2	84.6	83.3	80.6	79.3	78.0	78.0	78.0	79.3
67.5°	75.3	71.4	68.7	67.4	64.8	63.4	63.4	63.4	63.4	63.4	63.4
70°	59.5	56.8	54.2	51.5	51.5	50.2	50.2	50.2	50.2	50.2	50.2
72.5°	44.9	42.3	41.0	41.0	39.6	39.6	39.6	39.6	38.3	38.3	39.6
75°	33.0	31.7	30.4	30.4	30.4	29.1	29.1	29.1	29.1	29.1	29.1
77.5°	23.8	22.5	22.5	21.1	21.1	21.1	21.1	21.1	21.1	19.8	19.8
80°	15.9	14.5	14.5	14.5	14.5	13.2	13.2	13.2	13.2	13.2	13.2
82.5°	9.3	9.3	9.3	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
85°	5.3	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	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°	859.1	859.1	859.1	859.1	859.1	859.1	859.1	859.1
2.5°	843.2	848.5	849.8	845.8	847.2	844.5	845.8	843.2
5°	828.7	832.6	834.0	831.3	831.3	828.7	830.0	827.3
7.5°	810.2	814.1	815.5	812.8	812.8	810.2	810.2	808.8
10°	789.0	790.3	793.0	789.0	790.3	787.7	787.7	785.1
12.5°	762.6	765.2	767.9	763.9	763.9	762.6	762.6	758.6
15°	734.8	737.5	738.8	736.2	736.2	734.8	733.5	732.2
17.5°	705.8	707.1	709.7	705.8	708.4	705.8	705.8	703.1
20°	672.7	676.7	678.0	674.0	675.4	674.0	674.0	674.0
22.5°	641.0	643.6	645.0	642.3	643.6	641.0	642.3	639.7
25°	608.0	609.3	610.6	608.0	610.6	609.3	608.0	608.0
27.5°	573.6	574.9	576.2	573.6	576.2	574.9	576.2	573.6
30°	536.6	539.2	541.9	539.2	540.5	539.2	539.2	537.9
32.5°	499.6	502.2	504.9	502.2	504.9	502.2	503.5	500.9
35°	465.2	466.5	467.9	465.2	466.5	466.5	466.5	465.2
37.5°	426.9	429.5	429.5	428.2	430.9	429.5	429.5	426.9
40°	389.9	391.2	392.5	389.9	391.2	389.9	391.2	389.9
42.5°	351.6	354.2	355.5	352.9	352.9	352.9	351.6	352.9
45°	311.9	314.5	317.2	313.2	314.5	314.5	314.5	313.2
47.5°	276.2	276.2	277.5	276.2	277.5	274.9	277.5	276.2
50°	239.2	239.2	241.9	239.2	239.2	239.2	239.2	239.2
52.5°	203.5	204.9	204.9	202.2	203.5	202.2	203.5	202.2
55°	170.5	170.5	171.8	170.5	170.5	170.5	170.5	170.5
57.5°	141.4	142.7	142.7	141.4	142.7	141.4	141.4	141.4
60°	117.6	117.6	117.6	116.3	117.6	116.3	117.6	116.3
62.5°	95.2	96.5	96.5	95.2	96.5	95.2	95.2	95.2
65°	78.0	78.0	78.0	78.0	78.0	78.0	78.0	76.7
67.5°	62.1	62.1	63.4	62.1	63.4	63.4	63.4	63.4
70°	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2
72.5°	38.3	38.3	39.6	38.3	38.3	38.3	38.3	38.3
75°	29.1	29.1	29.1	29.1	29.1	27.8	27.8	29.1
77.5°	19.8	19.8	19.8	19.8	19.8	19.8	19.8	21.1
80°	13.2	13.2	13.2	13.2	11.9	11.9	13.2	11.9
82.5°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
85°	4.0	4.0	2.6	2.6	2.6	2.6	2.6	2.6
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)