

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: P251766

Luminaire Tested: **LD4B20D010 EU4B10208035 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251766
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 EU4B10208035 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1587.0 lumens
Efficiency: N/A
Efficacy: 76.3 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

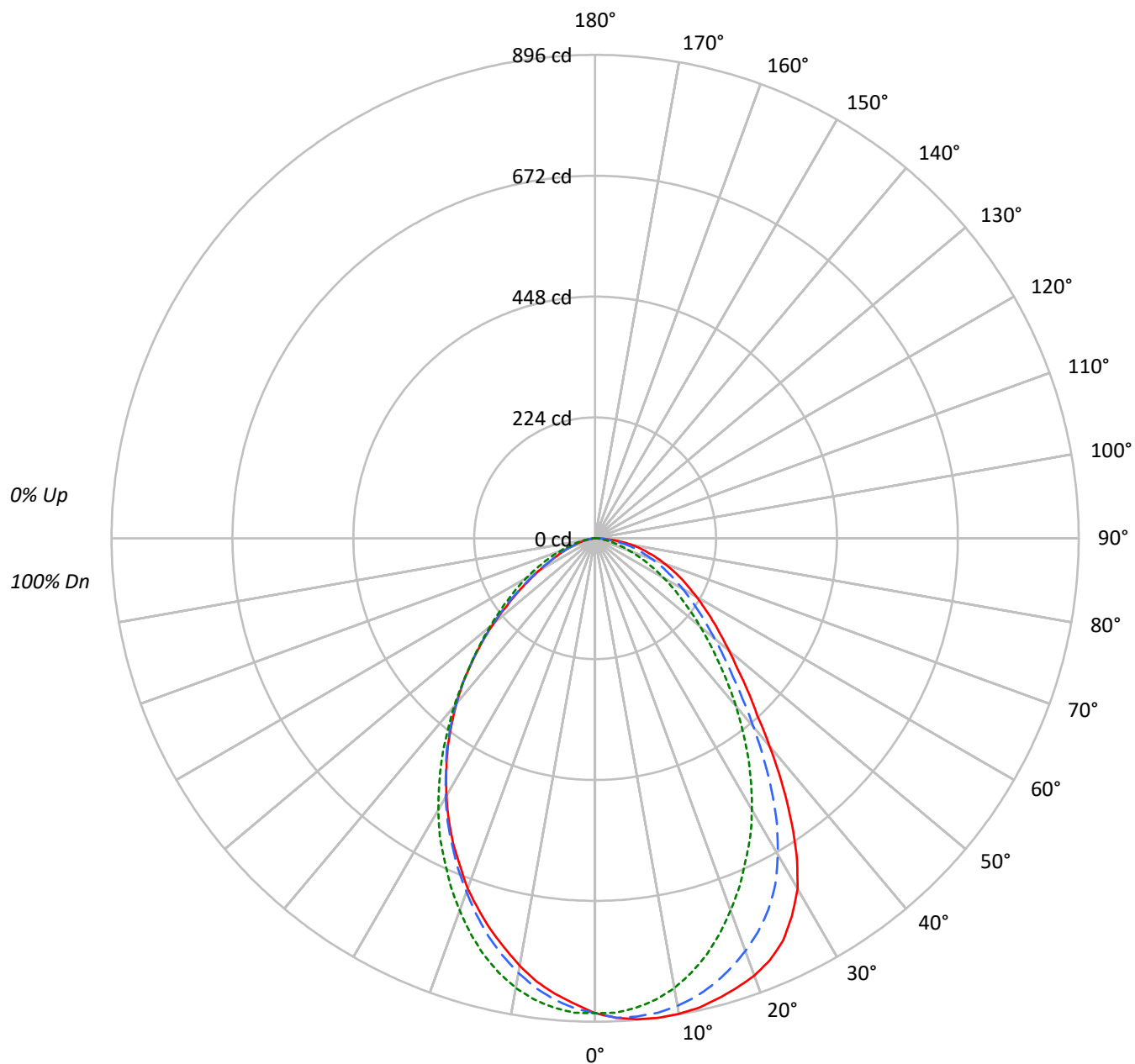
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88		
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76		
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67		
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59		
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52		
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47		
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42		
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38		
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35		
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	85773	85773	85773
5°	87558	85445	82921
10°	88571	83751	79595
15°	89071	80606	75682
20°	89452	76115	71624
25°	88532	70907	66982
30°	84412	65372	62018
35°	75073	58797	56703
40°	63917	51678	50813
45°	55048	44421	44229
50°	49064	38390	37162
55°	45095	33133	29684
60°	42219	28497	23234
65°	40587	24052	18103
70°	38981	19291	14675
75°	37730	15288	11221
80°	37996	10664	6847
85°	31757	7604	3019



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.4	5.2
10°-20°	226.5	14.3
20°-30°	316.8	20.0
30°-40°	325.6	20.5
40°-50°	264.3	16.7
50°-60°	186.1	11.7
60°-70°	114.6	7.2
70°-80°	57.2	3.6
80°-90°	13.6	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°	625.7	39.4
0°-40°	951.3	59.9
0°-60°	1401.6	88.3
0°-90°	1587.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1587.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	880	880	880	880	880	
5°	895	890	873	858	848	85
15°	883	854	799	764	750	249
25°	823	760	659	627	623	376
35°	631	570	494	479	477	392
45°	399	360	322	322	321	311
55°	265	233	195	179	175	239
65°	176	148	104	80	78	174
75°	100	78	41	30	30	107
85°	28	19	7	4	3	33
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°	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1
2.5°	889.6	891.0	886.9	891.0	885.6	888.3	889.6	886.9	884.2	889.6	889.6
5°	895.0	895.0	891.0	896.4	889.6	891.0	893.7	889.6	885.6	891.0	889.6
7.5°	896.4	896.4	891.0	896.4	889.6	891.0	892.3	888.3	884.2	888.3	886.9
10°	895.0	893.7	889.6	895.0	888.3	888.3	889.6	885.6	878.8	882.8	880.1
12.5°	891.0	891.0	885.6	891.0	881.5	881.5	882.8	877.4	872.0	872.0	869.3
15°	882.8	882.8	877.4	881.5	873.4	873.4	872.0	866.6	859.8	859.8	854.4
17.5°	873.4	873.4	868.0	872.0	862.5	862.5	861.2	853.1	843.6	842.2	835.5
20°	862.5	862.5	855.8	858.5	847.6	847.6	846.3	836.8	826.0	823.3	813.8
22.5°	846.3	846.3	839.5	840.9	830.0	828.7	827.3	816.5	805.7	801.6	789.4
25°	823.3	821.9	816.5	816.5	805.7	803.0	800.2	789.4	778.6	770.5	759.6
27.5°	789.4	790.8	784.0	785.4	771.8	769.1	767.8	754.2	742.0	733.9	723.1
30°	750.1	746.1	739.3	739.3	728.5	727.1	724.4	712.2	698.7	689.2	677.0
32.5°	694.6	693.3	686.5	686.5	674.3	674.3	668.9	656.7	644.5	639.1	626.9
35°	631.0	629.6	624.2	624.2	613.4	614.7	609.3	599.8	587.7	579.5	570.1
37.5°	566.0	564.6	559.2	560.6	551.1	551.1	547.0	537.6	528.1	524.0	511.8
40°	502.4	501.0	494.2	498.3	490.2	487.5	486.1	479.3	468.5	463.1	456.3
42.5°	444.1	445.5	438.7	441.4	434.7	431.9	430.6	425.2	417.1	411.6	404.9
45°	399.4	396.7	394.0	394.0	387.3	385.9	384.6	377.8	372.4	367.0	360.2
47.5°	357.5	354.8	352.1	353.4	348.0	346.6	343.9	338.5	331.7	329.0	322.3
50°	323.6	322.3	318.2	318.2	312.8	311.4	308.7	304.7	297.9	293.8	288.4
52.5°	292.5	292.5	288.4	287.1	283.0	281.6	280.3	274.9	269.5	264.0	258.6
55°	265.4	264.0	261.3	261.3	255.9	254.6	253.2	247.8	242.4	238.3	232.9
57.5°	239.7	239.7	237.0	237.0	232.9	230.2	230.2	224.8	218.0	215.3	208.5
60°	216.6	216.6	213.9	213.9	209.9	209.9	207.2	201.8	197.7	192.3	186.9
62.5°	195.0	196.3	193.6	192.3	188.2	186.9	186.9	182.8	176.0	172.0	166.5
65°	176.0	174.7	173.3	172.0	167.9	166.5	166.5	161.1	157.1	151.7	147.6
67.5°	155.7	155.7	153.0	153.0	150.3	148.9	146.2	142.2	138.1	134.1	130.0
70°	136.8	136.8	135.4	135.4	131.3	130.0	128.6	124.6	120.5	116.4	111.0
72.5°	119.2	117.8	116.4	116.4	113.7	112.4	111.0	107.0	102.9	98.8	94.8
75°	100.2	100.2	98.8	98.8	96.1	94.8	94.8	92.1	86.7	84.0	78.5
77.5°	84.0	84.0	82.6	82.6	79.9	79.9	78.5	74.5	71.8	67.7	65.0
80°	67.7	66.3	66.3	65.0	62.3	62.3	60.9	59.6	55.5	52.8	48.7
82.5°	47.4	47.4	47.4	46.0	44.7	44.7	43.3	40.6	37.9	36.6	32.5
85°	28.4	28.4	27.1	25.7	27.1	25.7	24.4	23.0	21.7	20.3	19.0
87.5°	12.2	12.2	10.8	10.8	10.8	10.8	10.8	9.5	8.1	8.1	6.8
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°	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1
2.5°	881.5	885.6	884.2	882.8	880.1	880.1	880.1	878.8	880.1	880.1	877.4
5°	881.5	884.2	882.8	880.1	877.4	877.4	876.1	873.4	873.4	873.4	868.0
7.5°	877.4	880.1	876.1	873.4	870.7	868.0	868.0	863.9	863.9	862.5	857.1
10°	869.3	870.7	865.2	862.5	858.5	857.1	854.4	849.0	847.6	846.3	840.9
12.5°	857.1	858.5	851.7	846.3	840.9	839.5	836.8	830.0	827.3	824.6	817.9
15°	839.5	839.5	831.4	824.6	819.2	817.9	811.1	804.3	801.6	798.9	789.4
17.5°	819.2	817.9	807.0	800.2	793.5	790.8	784.0	775.9	770.5	767.8	759.6
20°	797.5	793.5	781.3	774.5	766.4	762.3	755.6	744.7	739.3	733.9	725.8
22.5°	771.8	766.4	752.9	743.4	735.3	731.2	721.7	712.2	704.1	698.7	689.2
25°	740.7	733.9	719.0	706.8	700.0	696.0	686.5	675.7	667.6	659.4	651.3
27.5°	704.1	696.0	681.1	668.9	662.1	655.4	648.6	636.4	629.6	622.9	613.4
30°	659.4	649.9	636.4	625.6	617.5	612.0	603.9	593.1	585.0	580.9	571.4
32.5°	610.7	599.8	587.7	576.8	572.8	566.0	559.2	548.4	541.6	537.6	530.8
35°	556.5	548.4	534.9	526.7	520.0	517.3	511.8	501.0	498.3	494.2	486.1
37.5°	499.6	492.9	483.4	476.6	471.2	468.5	463.1	456.3	452.3	448.2	444.1
40°	446.8	441.4	433.3	427.9	421.1	417.1	417.1	408.9	406.2	406.2	402.2
42.5°	395.4	392.7	385.9	377.8	376.4	372.4	371.0	367.0	364.2	362.9	361.5
45°	352.1	348.0	341.2	337.2	333.1	333.1	329.0	325.0	323.6	322.3	320.9
47.5°	314.1	308.7	303.3	299.2	296.5	295.2	291.1	288.4	287.1	287.1	285.7
50°	280.3	276.2	270.8	266.7	264.0	261.3	258.6	255.9	254.6	253.2	253.2
52.5°	251.9	246.4	241.0	237.0	232.9	231.5	228.8	226.1	224.8	223.4	222.1
55°	226.1	222.1	215.3	211.2	207.2	207.2	203.1	199.0	196.3	195.0	193.6
57.5°	201.8	197.7	190.9	186.9	184.2	181.4	178.7	176.0	173.3	170.6	167.9
60°	180.1	176.0	169.3	163.8	162.5	159.8	157.1	151.7	148.9	146.2	143.5
62.5°	159.8	154.4	148.9	143.5	142.2	139.5	135.4	131.3	127.3	124.6	120.5
65°	140.8	136.8	130.0	125.9	121.9	120.5	116.4	111.0	107.0	104.3	100.2
67.5°	123.2	117.8	111.0	107.0	104.3	101.6	97.5	93.4	89.4	85.3	81.2
70°	105.6	101.6	94.8	90.7	88.0	85.3	81.2	75.8	71.8	67.7	65.0
72.5°	89.4	84.0	78.5	74.5	71.8	69.1	65.0	60.9	56.9	54.2	50.1
75°	74.5	69.1	65.0	59.6	58.2	55.5	51.5	47.4	43.3	40.6	37.9
77.5°	59.6	55.5	50.1	47.4	44.7	42.0	39.3	35.2	32.5	28.4	25.7
80°	44.7	40.6	36.6	33.9	31.1	29.8	27.1	24.4	21.7	19.0	17.6
82.5°	29.8	27.1	23.0	21.7	20.3	19.0	16.2	14.9	13.5	12.2	10.8
85°	16.2	14.9	13.5	10.8	10.8	9.5	8.1	8.1	6.8	6.8	5.4
87.5°	6.8	5.4	5.4	4.1	4.1	4.1	2.7	2.7	2.7	1.4	1.4
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°	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1
2.5°	878.8	873.4	873.4	873.4	869.3	870.7	872.0	873.4	872.0	868.0	872.0
5°	869.3	863.9	863.9	861.2	858.5	858.5	858.5	859.8	858.5	854.4	855.8
7.5°	857.1	850.3	849.0	846.3	843.6	842.2	842.2	842.2	840.9	835.5	838.2
10°	838.2	831.4	828.7	827.3	823.3	821.9	820.6	819.2	817.9	812.4	815.1
12.5°	815.1	809.7	804.3	803.0	798.9	796.2	794.8	794.8	792.1	786.7	789.4
15°	788.1	779.9	775.9	773.2	769.1	766.4	763.7	765.0	763.7	758.3	759.6
17.5°	755.6	747.4	743.4	742.0	736.6	733.9	732.5	732.5	731.2	725.8	727.1
20°	720.4	712.2	709.5	706.8	704.1	701.4	700.0	698.7	697.3	691.9	696.0
22.5°	685.2	675.7	671.6	671.6	666.2	664.8	663.5	664.8	663.5	658.1	660.8
25°	648.6	639.1	636.4	632.3	629.6	628.3	628.3	628.3	626.9	624.2	626.9
27.5°	608.0	601.2	597.1	595.8	593.1	591.7	590.4	591.7	591.7	587.7	590.4
30°	567.4	561.9	559.2	557.9	553.8	552.5	553.8	553.8	553.8	549.7	553.8
32.5°	526.7	522.7	521.3	517.3	514.5	514.5	514.5	515.9	514.5	511.8	515.9
35°	486.1	480.7	479.3	478.0	478.0	475.3	478.0	476.6	479.3	475.3	478.0
37.5°	442.8	440.1	438.7	438.7	436.0	437.4	437.4	437.4	440.1	436.0	438.7
40°	402.2	399.4	399.4	399.4	398.1	398.1	398.1	399.4	400.8	398.1	400.8
42.5°	361.5	360.2	360.2	358.8	357.5	358.8	360.2	360.2	361.5	358.8	360.2
45°	322.3	320.9	322.3	320.9	320.9	319.6	320.9	322.3	322.3	320.9	320.9
47.5°	285.7	285.7	284.4	284.4	284.4	284.4	284.4	284.4	284.4	281.6	284.4
50°	253.2	250.5	251.9	250.5	250.5	249.1	249.1	247.8	246.4	245.1	245.1
52.5°	222.1	219.4	219.4	218.0	216.6	216.6	215.3	213.9	212.6	209.9	209.9
55°	192.3	189.6	188.2	186.9	185.5	184.2	182.8	181.4	178.7	177.4	177.4
57.5°	165.2	162.5	159.8	159.8	157.1	155.7	153.0	150.3	148.9	146.2	146.2
60°	140.8	138.1	134.1	132.7	131.3	128.6	124.6	123.2	121.9	119.2	120.5
62.5°	117.8	113.7	109.7	108.3	107.0	104.3	101.6	98.8	97.5	98.8	98.8
65°	96.1	92.1	89.4	86.7	85.3	82.6	81.2	79.9	79.9	79.9	81.2
67.5°	77.2	73.1	70.4	69.1	66.3	65.0	65.0	65.0	65.0	65.0	65.0
70°	60.9	58.2	55.5	52.8	52.8	51.5	51.5	51.5	51.5	51.5	51.5
72.5°	46.0	43.3	42.0	42.0	40.6	40.6	40.6	40.6	39.3	39.3	40.6
75°	33.9	32.5	31.1	31.1	31.1	29.8	29.8	29.8	29.8	29.8	29.8
77.5°	24.4	23.0	23.0	21.7	21.7	21.7	21.7	21.7	21.7	20.3	20.3
80°	16.2	14.9	14.9	14.9	14.9	13.5	13.5	13.5	13.5	13.5	13.5
82.5°	9.5	9.5	9.5	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
85°	5.4	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
87.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	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°	880.1	880.1	880.1	880.1	880.1	880.1	880.1	880.1
2.5°	863.9	869.3	870.7	866.6	868.0	865.2	866.6	863.9
5°	849.0	853.1	854.4	851.7	851.7	849.0	850.3	847.6
7.5°	830.0	834.1	835.5	832.7	832.7	830.0	830.0	828.7
10°	808.4	809.7	812.4	808.4	809.7	807.0	807.0	804.3
12.5°	781.3	784.0	786.7	782.6	782.6	781.3	781.3	777.2
15°	752.9	755.6	756.9	754.2	754.2	752.9	751.5	750.1
17.5°	723.1	724.4	727.1	723.1	725.8	723.1	723.1	720.4
20°	689.2	693.3	694.6	690.6	691.9	690.6	690.6	690.6
22.5°	656.7	659.4	660.8	658.1	659.4	656.7	658.1	655.4
25°	622.9	624.2	625.6	622.9	625.6	624.2	622.9	622.9
27.5°	587.7	589.0	590.4	587.7	590.4	589.0	590.4	587.7
30°	549.7	552.5	555.2	552.5	553.8	552.5	552.5	551.1
32.5°	511.8	514.5	517.3	514.5	517.3	514.5	515.9	513.2
35°	476.6	478.0	479.3	476.6	478.0	478.0	478.0	476.6
37.5°	437.4	440.1	440.1	438.7	441.4	440.1	440.1	437.4
40°	399.4	400.8	402.2	399.4	400.8	399.4	400.8	399.4
42.5°	360.2	362.9	364.2	361.5	361.5	361.5	360.2	361.5
45°	319.6	322.3	325.0	320.9	322.3	322.3	322.3	320.9
47.5°	283.0	283.0	284.4	283.0	284.4	281.6	284.4	283.0
50°	245.1	245.1	247.8	245.1	245.1	245.1	245.1	245.1
52.5°	208.5	209.9	209.9	207.2	208.5	207.2	208.5	207.2
55°	174.7	174.7	176.0	174.7	174.7	174.7	174.7	174.7
57.5°	144.9	146.2	146.2	144.9	146.2	144.9	144.9	144.9
60°	120.5	120.5	120.5	119.2	120.5	119.2	120.5	119.2
62.5°	97.5	98.8	98.8	97.5	98.8	97.5	97.5	97.5
65°	79.9	79.9	79.9	79.9	79.9	79.9	79.9	78.5
67.5°	63.6	63.6	65.0	63.6	65.0	65.0	65.0	65.0
70°	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5
72.5°	39.3	39.3	40.6	39.3	39.3	39.3	39.3	39.3
75°	29.8	29.8	29.8	29.8	29.8	28.4	28.4	29.8
77.5°	20.3	20.3	20.3	20.3	20.3	20.3	20.3	21.7
80°	13.5	13.5	13.5	13.5	12.2	12.2	13.5	12.2
82.5°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
85°	4.1	4.1	2.7	2.7	2.7	2.7	2.7	2.7
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)