

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: P251764

Luminaire Tested: **LD4B20D010 EU4B10208027 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251764
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 EU4B10208027 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1482.0 lumens
Efficiency: N/A
Efficacy: 71.2 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

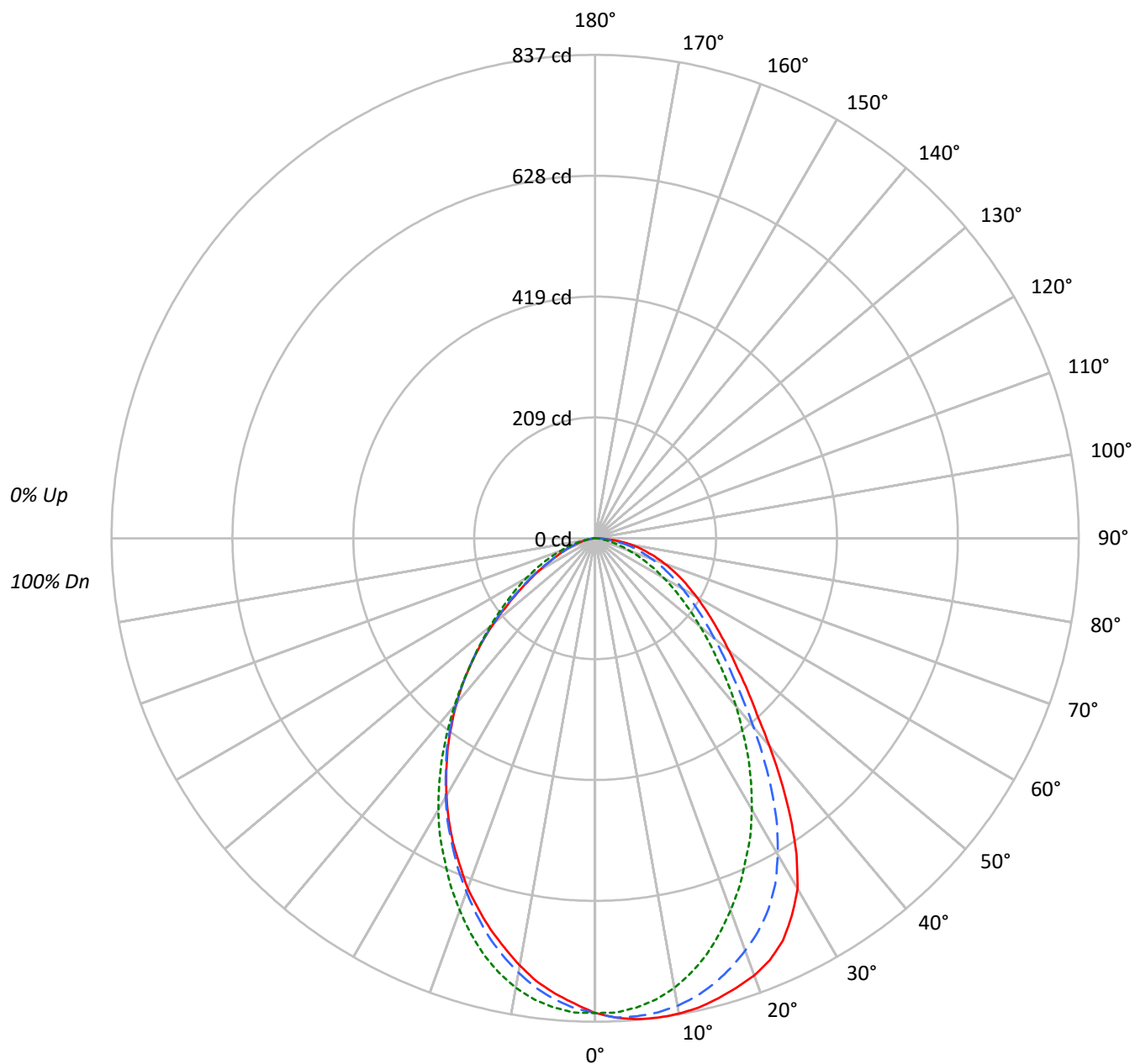
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	80101	80101	80101
5°	81767	79790	77443
10°	82712	78209	74330
15°	83179	75268	70678
20°	83541	71074	66884
25°	82671	66219	62552
30°	78831	61050	57910
35°	70100	54907	52955
40°	59680	48255	47454
45°	51409	41472	41307
50°	45819	35858	34705
55°	42104	30941	27713
60°	39432	26626	21694
65°	37912	22461	16903
70°	36388	18009	13678
75°	35245	14271	10468
80°	35470	9934	6398
85°	29744	7045	2796



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.9	5.2
10°-20°	211.5	14.3
20°-30°	295.8	20.0
30°-40°	304.1	20.5
40°-50°	246.8	16.7
50°-60°	173.8	11.7
60°-70°	107.0	7.2
70°-80°	53.4	3.6
80°-90°	12.7	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°	584.3	39.4
0°-40°	888.3	59.9
0°-60°	1308.9	88.3
0°-90°	1482.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1482.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	822	822	822	822	822	
5°	836	831	816	802	792	80
15°	824	798	746	713	700	233
25°	769	709	616	586	582	351
35°	589	532	462	448	445	366
45°	373	336	301	301	300	290
55°	248	218	182	167	163	223
65°	164	138	97	75	73	163
75°	94	73	38	28	28	100
85°	27	18	6	4	2	31
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°	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9
2.5°	830.8	832.0	828.2	832.0	827.0	829.5	830.8	828.2	825.7	830.8	830.8
5°	835.8	835.8	832.0	837.1	830.8	832.0	834.6	830.8	827.0	832.0	830.8
7.5°	837.1	837.1	832.0	837.1	830.8	832.0	833.3	829.5	825.7	829.5	828.2
10°	835.8	834.6	830.8	835.8	829.5	829.5	830.8	827.0	820.6	824.4	821.9
12.5°	832.0	832.0	827.0	832.0	823.2	823.2	824.4	819.4	814.3	814.3	811.8
15°	824.4	824.4	819.4	823.2	815.6	815.6	814.3	809.3	802.9	802.9	797.9
17.5°	815.6	815.6	810.5	814.3	805.5	805.5	804.2	796.6	787.8	786.5	780.2
20°	805.5	805.5	799.1	801.7	791.6	791.6	790.3	781.4	771.3	768.8	759.9
22.5°	790.3	790.3	784.0	785.2	775.1	773.9	772.6	762.5	752.4	748.6	737.2
25°	768.8	767.5	762.5	762.5	752.4	749.8	747.3	737.2	727.1	719.5	709.4
27.5°	737.2	738.5	732.1	733.4	720.7	718.2	717.0	704.3	692.9	685.3	675.2
30°	700.5	696.7	690.4	690.4	680.3	679.0	676.5	665.1	652.5	643.6	632.2
32.5°	648.7	647.4	641.1	641.1	629.7	629.7	624.6	613.3	601.9	596.8	585.5
35°	589.2	588.0	582.9	582.9	572.8	574.1	569.0	560.2	548.8	541.2	532.3
37.5°	528.5	527.3	522.2	523.5	514.6	514.6	510.8	502.0	493.1	489.4	478.0
40°	469.1	467.9	461.5	465.3	457.7	455.2	453.9	447.6	437.5	432.4	426.1
42.5°	414.7	416.0	409.7	412.2	405.9	403.4	402.1	397.0	389.5	384.4	378.1
45°	373.0	370.5	368.0	368.0	361.6	360.4	359.1	352.8	347.7	342.7	336.3
47.5°	333.8	331.3	328.8	330.0	325.0	323.7	321.2	316.1	309.8	307.3	300.9
50°	302.2	300.9	297.2	297.2	292.1	290.8	288.3	284.5	278.2	274.4	269.3
52.5°	273.1	273.1	269.3	268.1	264.3	263.0	261.7	256.7	251.6	246.6	241.5
55°	247.8	246.6	244.0	244.0	239.0	237.7	236.5	231.4	226.3	222.5	217.5
57.5°	223.8	223.8	221.3	221.3	217.5	215.0	215.0	209.9	203.6	201.1	194.7
60°	202.3	202.3	199.8	199.8	196.0	196.0	193.5	188.4	184.6	179.6	174.5
62.5°	182.1	183.3	180.8	179.6	175.8	174.5	174.5	170.7	164.4	160.6	155.5
65°	164.4	163.1	161.9	160.6	156.8	155.5	155.5	150.5	146.7	141.6	137.8
67.5°	145.4	145.4	142.9	142.9	140.4	139.1	136.6	132.8	129.0	125.2	121.4
70°	127.7	127.7	126.4	126.4	122.7	121.4	120.1	116.3	112.5	108.7	103.7
72.5°	111.3	110.0	108.7	108.7	106.2	105.0	103.7	99.9	96.1	92.3	88.5
75°	93.6	93.6	92.3	92.3	89.8	88.5	88.5	86.0	80.9	78.4	73.3
77.5°	78.4	78.4	77.1	77.1	74.6	74.6	73.3	69.5	67.0	63.2	60.7
80°	63.2	62.0	62.0	60.7	58.2	58.2	56.9	55.6	51.8	49.3	45.5
82.5°	44.3	44.3	44.3	43.0	41.7	41.7	40.5	37.9	35.4	34.1	30.3
85°	26.6	26.6	25.3	24.0	25.3	24.0	22.8	21.5	20.2	19.0	17.7
87.5°	11.4	11.4	10.1	10.1	10.1	10.1	10.1	8.9	7.6	7.6	6.3
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9
2.5°	823.2	827.0	825.7	824.4	821.9	821.9	821.9	820.6	821.9	821.9	819.4
5°	823.2	825.7	824.4	821.9	819.4	819.4	818.1	815.6	815.6	815.6	810.5
7.5°	819.4	821.9	818.1	815.6	813.1	810.5	810.5	806.7	806.7	805.5	800.4
10°	811.8	813.1	808.0	805.5	801.7	800.4	797.9	792.8	791.6	790.3	785.2
12.5°	800.4	801.7	795.4	790.3	785.2	784.0	781.4	775.1	772.6	770.1	763.7
15°	784.0	784.0	776.4	770.1	765.0	763.7	757.4	751.1	748.6	746.0	737.2
17.5°	765.0	763.7	753.6	747.3	741.0	738.5	732.1	724.5	719.5	717.0	709.4
20°	744.8	741.0	729.6	723.3	715.7	711.9	705.6	695.5	690.4	685.3	677.8
22.5°	720.7	715.7	703.0	694.2	686.6	682.8	674.0	665.1	657.5	652.5	643.6
25°	691.7	685.3	671.4	660.1	653.7	649.9	641.1	631.0	623.4	615.8	608.2
27.5°	657.5	649.9	636.0	624.6	618.3	612.0	605.7	594.3	588.0	581.7	572.8
30°	615.8	606.9	594.3	584.2	576.6	571.5	564.0	553.8	546.3	542.5	533.6
32.5°	570.3	560.2	548.8	538.7	534.9	528.5	522.2	512.1	505.8	502.0	495.7
35°	519.7	512.1	499.5	491.9	485.6	483.0	478.0	467.9	465.3	461.5	453.9
37.5°	466.6	460.3	451.4	445.1	440.0	437.5	432.4	426.1	422.3	418.5	414.7
40°	417.3	412.2	404.6	399.6	393.3	389.5	389.5	381.9	379.3	379.3	375.5
42.5°	369.2	366.7	360.4	352.8	351.5	347.7	346.5	342.7	340.1	338.9	337.6
45°	328.8	325.0	318.6	314.9	311.1	311.1	307.3	303.5	302.2	300.9	299.7
47.5°	293.4	288.3	283.2	279.4	276.9	275.7	271.9	269.3	268.1	268.1	266.8
50°	261.7	258.0	252.9	249.1	246.6	244.0	241.5	239.0	237.7	236.5	236.5
52.5°	235.2	230.1	225.1	221.3	217.5	216.2	213.7	211.2	209.9	208.6	207.4
55°	211.2	207.4	201.1	197.3	193.5	193.5	189.7	185.9	183.3	182.1	180.8
57.5°	188.4	184.6	178.3	174.5	172.0	169.4	166.9	164.4	161.9	159.3	156.8
60°	168.2	164.4	158.1	153.0	151.7	149.2	146.7	141.6	139.1	136.6	134.0
62.5°	149.2	144.1	139.1	134.0	132.8	130.2	126.4	122.7	118.9	116.3	112.5
65°	131.5	127.7	121.4	117.6	113.8	112.5	108.7	103.7	99.9	97.4	93.6
67.5°	115.1	110.0	103.7	99.9	97.4	94.8	91.0	87.2	83.5	79.7	75.9
70°	98.6	94.8	88.5	84.7	82.2	79.7	75.9	70.8	67.0	63.2	60.7
72.5°	83.5	78.4	73.3	69.5	67.0	64.5	60.7	56.9	53.1	50.6	46.8
75°	69.5	64.5	60.7	55.6	54.4	51.8	48.0	44.3	40.5	37.9	35.4
77.5°	55.6	51.8	46.8	44.3	41.7	39.2	36.7	32.9	30.3	26.6	24.0
80°	41.7	37.9	34.1	31.6	29.1	27.8	25.3	22.8	20.2	17.7	16.4
82.5°	27.8	25.3	21.5	20.2	19.0	17.7	15.2	13.9	12.6	11.4	10.1
85°	15.2	13.9	12.6	10.1	10.1	8.9	7.6	7.6	6.3	6.3	5.1
87.5°	6.3	5.1	5.1	3.8	3.8	3.8	2.5	2.5	2.5	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°	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9
2.5°	820.6	815.6	815.6	815.6	811.8	813.1	814.3	815.6	814.3	810.5	814.3
5°	811.8	806.7	806.7	804.2	801.7	801.7	801.7	802.9	801.7	797.9	799.1
7.5°	800.4	794.1	792.8	790.3	787.8	786.5	786.5	786.5	785.2	780.2	782.7
10°	782.7	776.4	773.9	772.6	768.8	767.5	766.3	765.0	763.7	758.7	761.2
12.5°	761.2	756.2	751.1	749.8	746.0	743.5	742.2	742.2	739.7	734.7	737.2
15°	735.9	728.3	724.5	722.0	718.2	715.7	713.2	714.4	713.2	708.1	709.4
17.5°	705.6	698.0	694.2	692.9	687.9	685.3	684.1	684.1	682.8	677.8	679.0
20°	672.7	665.1	662.6	660.1	657.5	655.0	653.7	652.5	651.2	646.1	649.9
22.5°	639.8	631.0	627.2	627.2	622.1	620.9	619.6	620.9	619.6	614.5	617.1
25°	605.7	596.8	594.3	590.5	588.0	586.7	586.7	586.7	585.5	582.9	585.5
27.5°	567.7	561.4	557.6	556.4	553.8	552.6	551.3	552.6	552.6	548.8	551.3
30°	529.8	524.8	522.2	521.0	517.2	515.9	517.2	517.2	517.2	513.4	517.2
32.5°	491.9	488.1	486.8	483.0	480.5	480.5	480.5	481.8	480.5	478.0	481.8
35°	453.9	448.9	447.6	446.4	446.4	443.8	446.4	445.1	447.6	443.8	446.4
37.5°	413.5	411.0	409.7	409.7	407.2	408.4	408.4	408.4	411.0	407.2	409.7
40°	375.5	373.0	373.0	373.0	371.8	371.8	371.8	373.0	374.3	371.8	374.3
42.5°	337.6	336.3	336.3	335.1	333.8	335.1	336.3	336.3	337.6	335.1	336.3
45°	300.9	299.7	300.9	299.7	299.7	298.4	299.7	300.9	300.9	299.7	299.7
47.5°	266.8	266.8	265.5	265.5	265.5	265.5	265.5	265.5	265.5	263.0	265.5
50°	236.5	233.9	235.2	233.9	233.9	232.7	232.7	231.4	230.1	228.9	228.9
52.5°	207.4	204.8	204.8	203.6	202.3	202.3	201.1	199.8	198.5	196.0	196.0
55°	179.6	177.0	175.8	174.5	173.2	172.0	170.7	169.4	166.9	165.6	165.6
57.5°	154.3	151.7	149.2	149.2	146.7	145.4	142.9	140.4	139.1	136.6	136.6
60°	131.5	129.0	125.2	123.9	122.7	120.1	116.3	115.1	113.8	111.3	112.5
62.5°	110.0	106.2	102.4	101.2	99.9	97.4	94.8	92.3	91.0	92.3	92.3
65°	89.8	86.0	83.5	80.9	79.7	77.1	75.9	74.6	74.6	74.6	75.9
67.5°	72.1	68.3	65.8	64.5	62.0	60.7	60.7	60.7	60.7	60.7	60.7
70°	56.9	54.4	51.8	49.3	49.3	48.0	48.0	48.0	48.0	48.0	48.0
72.5°	43.0	40.5	39.2	39.2	37.9	37.9	37.9	37.9	36.7	36.7	37.9
75°	31.6	30.3	29.1	29.1	29.1	27.8	27.8	27.8	27.8	27.8	27.8
77.5°	22.8	21.5	21.5	20.2	20.2	20.2	20.2	20.2	20.2	19.0	19.0
80°	15.2	13.9	13.9	13.9	13.9	12.6	12.6	12.6	12.6	12.6	12.6
82.5°	8.9	8.9	8.9	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
85°	5.1	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
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°	821.9	821.9	821.9	821.9	821.9	821.9	821.9	821.9
2.5°	806.7	811.8	813.1	809.3	810.5	808.0	809.3	806.7
5°	792.8	796.6	797.9	795.4	795.4	792.8	794.1	791.6
7.5°	775.1	778.9	780.2	777.7	777.7	775.1	775.1	773.9
10°	754.9	756.2	758.7	754.9	756.2	753.6	753.6	751.1
12.5°	729.6	732.1	734.7	730.9	730.9	729.6	729.6	725.8
15°	703.0	705.6	706.8	704.3	704.3	703.0	701.8	700.5
17.5°	675.2	676.5	679.0	675.2	677.8	675.2	675.2	672.7
20°	643.6	647.4	648.7	644.9	646.1	644.9	644.9	644.9
22.5°	613.3	615.8	617.1	614.5	615.8	613.3	614.5	612.0
25°	581.7	582.9	584.2	581.7	584.2	582.9	581.7	581.7
27.5°	548.8	550.0	551.3	548.8	551.3	550.0	551.3	548.8
30°	513.4	515.9	518.4	515.9	517.2	515.9	515.9	514.6
32.5°	478.0	480.5	483.0	480.5	483.0	480.5	481.8	479.2
35°	445.1	446.4	447.6	445.1	446.4	446.4	446.4	445.1
37.5°	408.4	411.0	411.0	409.7	412.2	411.0	411.0	408.4
40°	373.0	374.3	375.5	373.0	374.3	373.0	374.3	373.0
42.5°	336.3	338.9	340.1	337.6	337.6	337.6	336.3	337.6
45°	298.4	300.9	303.5	299.7	300.9	300.9	300.9	299.7
47.5°	264.3	264.3	265.5	264.3	265.5	263.0	265.5	264.3
50°	228.9	228.9	231.4	228.9	228.9	228.9	228.9	228.9
52.5°	194.7	196.0	196.0	193.5	194.7	193.5	194.7	193.5
55°	163.1	163.1	164.4	163.1	163.1	163.1	163.1	163.1
57.5°	135.3	136.6	136.6	135.3	136.6	135.3	135.3	135.3
60°	112.5	112.5	112.5	111.3	112.5	111.3	112.5	111.3
62.5°	91.0	92.3	92.3	91.0	92.3	91.0	91.0	91.0
65°	74.6	74.6	74.6	74.6	74.6	74.6	74.6	73.3
67.5°	59.4	59.4	60.7	59.4	60.7	60.7	60.7	60.7
70°	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0
72.5°	36.7	36.7	37.9	36.7	36.7	36.7	36.7	36.7
75°	27.8	27.8	27.8	27.8	27.8	26.6	26.6	27.8
77.5°	19.0	19.0	19.0	19.0	19.0	19.0	19.0	20.2
80°	12.6	12.6	12.6	12.6	11.4	11.4	12.6	11.4
82.5°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
85°	3.8	3.8	2.5	2.5	2.5	2.5	2.5	2.5
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)