

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: P251772

Luminaire Tested: **LD4B20D010 EU4B10209035 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251772
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 EU4B10209035 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1342.0 lumens
Efficiency: N/A
Efficacy: 64.5 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

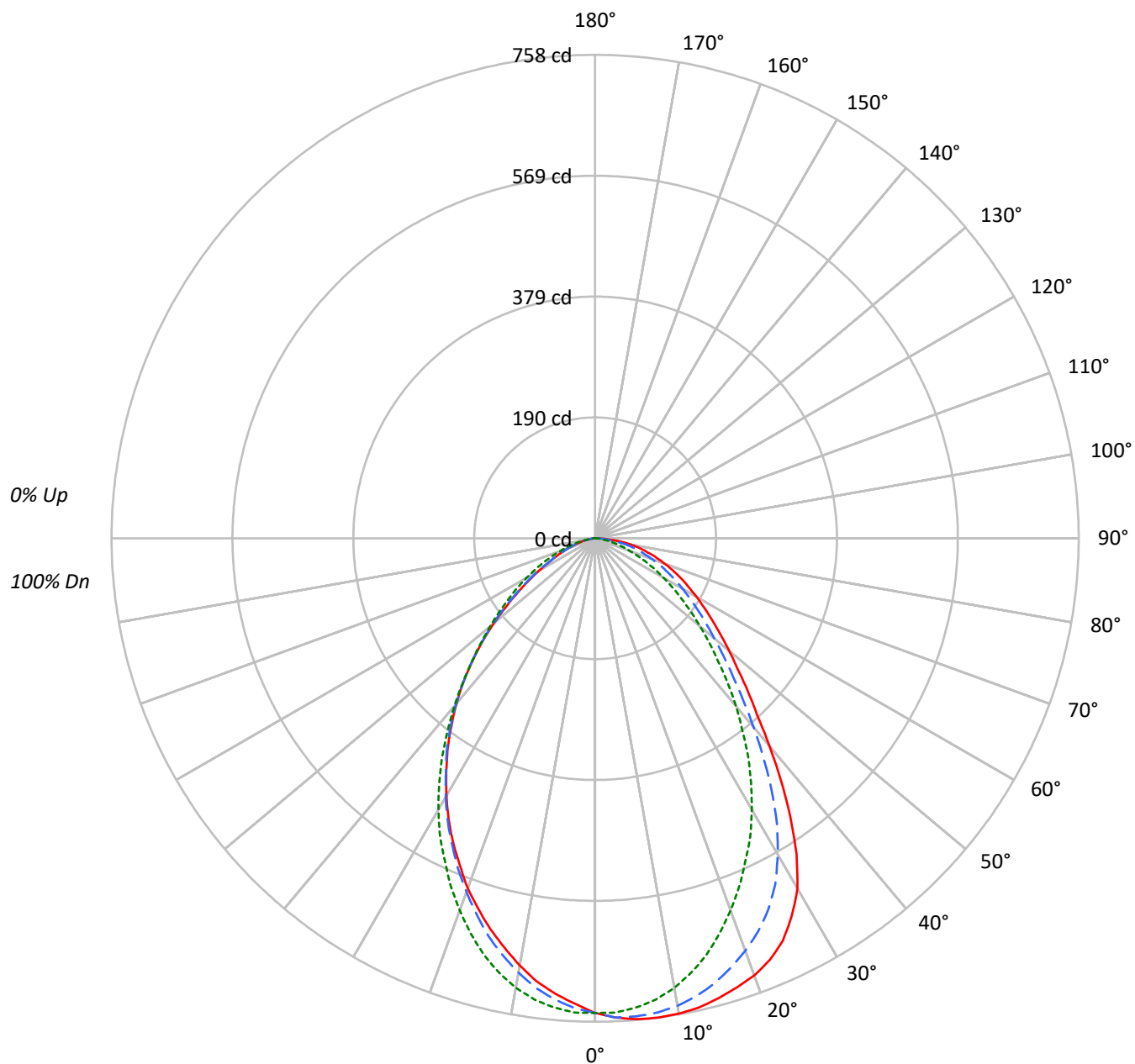
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
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°	72538	72538	72538
5°	74048	72248	70125
10°	74904	70817	67304
15°	75329	68165	63998
20°	75648	64364	60568
25°	74865	59960	56638
30°	71381	55277	52441
35°	63485	49719	47947
40°	54044	43701	42976
45°	46558	37558	37406
50°	41498	32461	31415
55°	38128	28019	25096
60°	35709	24111	19648
65°	34337	20339	15312
70°	32940	16328	12395
75°	31894	12953	9489
80°	32159	8980	5781
85°	26837	6374	2572



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.7	5.2
10°-20°	191.5	14.3
20°-30°	267.9	20.0
30°-40°	275.3	20.5
40°-50°	223.5	16.7
50°-60°	157.4	11.7
60°-70°	96.9	7.2
70°-80°	48.4	3.6
80°-90°	11.5	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°	529.1	39.4
0°-40°	804.4	59.9
0°-60°	1185.2	88.3
0°-90°	1342.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1342.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	744	744	744	744	744	
5°	757	752	738	726	717	72
15°	747	722	676	646	634	211
25°	696	642	558	530	527	318
35°	534	482	418	405	403	332
45°	338	305	272	272	271	263
55°	224	197	165	151	148	202
65°	149	125	88	68	66	147
75°	85	66	34	25	25	90
85°	24	16	6	3	2	28
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°	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3
2.5°	752.3	753.4	750.0	753.4	748.8	751.1	752.3	750.0	747.7	752.3	752.3
5°	756.9	756.9	753.4	758.0	752.3	753.4	755.7	752.3	748.8	753.4	752.3
7.5°	758.0	758.0	753.4	758.0	752.3	753.4	754.6	751.1	747.7	751.1	750.0
10°	756.9	755.7	752.3	756.9	751.1	751.1	752.3	748.8	743.1	746.6	744.3
12.5°	753.4	753.4	748.8	753.4	745.4	745.4	746.6	742.0	737.4	737.4	735.1
15°	746.6	746.6	742.0	745.4	738.5	738.5	737.4	732.8	727.1	727.1	722.5
17.5°	738.5	738.5	734.0	737.4	729.4	729.4	728.2	721.4	713.3	712.2	706.5
20°	729.4	729.4	723.7	725.9	716.8	716.8	715.6	707.6	698.5	696.2	688.2
22.5°	715.6	715.6	709.9	711.1	701.9	700.8	699.6	690.4	681.3	677.9	667.5
25°	696.2	695.0	690.4	690.4	681.3	679.0	676.7	667.5	658.4	651.5	642.4
27.5°	667.5	668.7	663.0	664.1	652.7	650.4	649.2	637.8	627.5	620.6	611.4
30°	634.3	630.9	625.2	625.2	616.0	614.9	612.6	602.3	590.8	582.8	572.5
32.5°	587.4	586.3	580.5	580.5	570.2	570.2	565.6	555.3	545.0	540.5	530.1
35°	533.6	532.4	527.9	527.9	518.7	519.8	515.3	507.2	496.9	490.1	482.1
37.5°	478.6	477.5	472.9	474.0	466.0	466.0	462.6	454.6	446.6	443.1	432.8
40°	424.8	423.7	417.9	421.4	414.5	412.2	411.1	405.3	396.2	391.6	385.9
42.5°	375.6	376.7	371.0	373.3	367.6	365.3	364.1	359.5	352.7	348.1	342.4
45°	337.8	335.5	333.2	333.2	327.5	326.3	325.2	319.5	314.9	310.3	304.6
47.5°	302.3	300.0	297.7	298.9	294.3	293.1	290.8	286.3	280.5	278.2	272.5
50°	273.7	272.5	269.1	269.1	264.5	263.4	261.1	257.6	251.9	248.5	243.9
52.5°	247.3	247.3	243.9	242.7	239.3	238.2	237.0	232.4	227.9	223.3	218.7
55°	224.4	223.3	221.0	221.0	216.4	215.3	214.1	209.5	205.0	201.5	196.9
57.5°	202.7	202.7	200.4	200.4	196.9	194.7	194.7	190.1	184.3	182.1	176.3
60°	183.2	183.2	180.9	180.9	177.5	177.5	175.2	170.6	167.2	162.6	158.0
62.5°	164.9	166.0	163.7	162.6	159.2	158.0	158.0	154.6	148.9	145.4	140.8
65°	148.9	147.7	146.6	145.4	142.0	140.8	140.8	136.3	132.8	128.2	124.8
67.5°	131.7	131.7	129.4	129.4	127.1	126.0	123.7	120.2	116.8	113.4	109.9
70°	115.6	115.6	114.5	114.5	111.1	109.9	108.8	105.3	101.9	98.5	93.9
72.5°	100.8	99.6	98.5	98.5	96.2	95.0	93.9	90.5	87.0	83.6	80.2
75°	84.7	84.7	83.6	83.6	81.3	80.2	80.2	77.9	73.3	71.0	66.4
77.5°	71.0	71.0	69.8	69.8	67.6	67.6	66.4	63.0	60.7	57.3	55.0
80°	57.3	56.1	56.1	55.0	52.7	52.7	51.5	50.4	46.9	44.7	41.2
82.5°	40.1	40.1	40.1	38.9	37.8	37.8	36.6	34.4	32.1	30.9	27.5
85°	24.0	24.0	22.9	21.8	22.9	21.8	20.6	19.5	18.3	17.2	16.0
87.5°	10.3	10.3	9.2	9.2	9.2	9.2	9.2	8.0	6.9	6.9	5.7
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°	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3
2.5°	745.4	748.8	747.7	746.6	744.3	744.3	744.3	743.1	744.3	744.3	742.0
5°	745.4	747.7	746.6	744.3	742.0	742.0	740.8	738.5	738.5	738.5	734.0
7.5°	742.0	744.3	740.8	738.5	736.2	734.0	734.0	730.5	730.5	729.4	724.8
10°	735.1	736.2	731.7	729.4	725.9	724.8	722.5	717.9	716.8	715.6	711.1
12.5°	724.8	725.9	720.2	715.6	711.1	709.9	707.6	701.9	699.6	697.3	691.6
15°	709.9	709.9	703.0	697.3	692.7	691.6	685.9	680.1	677.9	675.6	667.5
17.5°	692.7	691.6	682.4	676.7	671.0	668.7	663.0	656.1	651.5	649.2	642.4
20°	674.4	671.0	660.7	655.0	648.1	644.6	638.9	629.8	625.2	620.6	613.7
22.5°	652.7	648.1	636.6	628.6	621.7	618.3	610.3	602.3	595.4	590.8	582.8
25°	626.3	620.6	608.0	597.7	592.0	588.5	580.5	571.4	564.5	557.6	550.8
27.5°	595.4	588.5	575.9	565.6	559.9	554.2	548.5	538.2	532.4	526.7	518.7
30°	557.6	549.6	538.2	529.0	522.1	517.5	510.7	501.5	494.6	491.2	483.2
32.5°	516.4	507.2	496.9	487.8	484.3	478.6	472.9	463.7	458.0	454.6	448.8
35°	470.6	463.7	452.3	445.4	439.7	437.4	432.8	423.7	421.4	417.9	411.1
37.5°	422.5	416.8	408.8	403.0	398.5	396.2	391.6	385.9	382.4	379.0	375.6
40°	377.9	373.3	366.4	361.8	356.1	352.7	352.7	345.8	343.5	343.5	340.1
42.5°	334.3	332.1	326.3	319.5	318.3	314.9	313.7	310.3	308.0	306.9	305.7
45°	297.7	294.3	288.5	285.1	281.7	281.7	278.2	274.8	273.7	272.5	271.4
47.5°	265.6	261.1	256.5	253.0	250.8	249.6	246.2	243.9	242.7	242.7	241.6
50°	237.0	233.6	229.0	225.6	223.3	221.0	218.7	216.4	215.3	214.1	214.1
52.5°	213.0	208.4	203.8	200.4	196.9	195.8	193.5	191.2	190.1	188.9	187.8
55°	191.2	187.8	182.1	178.6	175.2	175.2	171.8	168.3	166.0	164.9	163.7
57.5°	170.6	167.2	161.4	158.0	155.7	153.4	151.1	148.9	146.6	144.3	142.0
60°	152.3	148.9	143.1	138.5	137.4	135.1	132.8	128.2	126.0	123.7	121.4
62.5°	135.1	130.5	126.0	121.4	120.2	117.9	114.5	111.1	107.6	105.3	101.9
65°	119.1	115.6	109.9	106.5	103.1	101.9	98.5	93.9	90.5	88.2	84.7
67.5°	104.2	99.6	93.9	90.5	88.2	85.9	82.4	79.0	75.6	72.1	68.7
70°	89.3	85.9	80.2	76.7	74.4	72.1	68.7	64.1	60.7	57.3	55.0
72.5°	75.6	71.0	66.4	63.0	60.7	58.4	55.0	51.5	48.1	45.8	42.4
75°	63.0	58.4	55.0	50.4	49.2	46.9	43.5	40.1	36.6	34.4	32.1
77.5°	50.4	46.9	42.4	40.1	37.8	35.5	33.2	29.8	27.5	24.0	21.8
80°	37.8	34.4	30.9	28.6	26.3	25.2	22.9	20.6	18.3	16.0	14.9
82.5°	25.2	22.9	19.5	18.3	17.2	16.0	13.7	12.6	11.5	10.3	9.2
85°	13.7	12.6	11.5	9.2	9.2	8.0	6.9	6.9	5.7	5.7	4.6
87.5°	5.7	4.6	4.6	3.4	3.4	3.4	2.3	2.3	2.3	1.1	1.1
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°	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3
2.5°	743.1	738.5	738.5	738.5	735.1	736.2	737.4	738.5	737.4	734.0	737.4
5°	735.1	730.5	730.5	728.2	725.9	725.9	725.9	727.1	725.9	722.5	723.7
7.5°	724.8	719.1	717.9	715.6	713.3	712.2	712.2	712.2	711.1	706.5	708.8
10°	708.8	703.0	700.8	699.6	696.2	695.0	693.9	692.7	691.6	687.0	689.3
12.5°	689.3	684.7	680.1	679.0	675.6	673.3	672.1	672.1	669.8	665.3	667.5
15°	666.4	659.5	656.1	653.8	650.4	648.1	645.8	646.9	645.8	641.2	642.4
17.5°	638.9	632.1	628.6	627.5	622.9	620.6	619.5	619.5	618.3	613.7	614.9
20°	609.2	602.3	600.0	597.7	595.4	593.1	592.0	590.8	589.7	585.1	588.5
22.5°	579.4	571.4	567.9	567.9	563.4	562.2	561.1	562.2	561.1	556.5	558.8
25°	548.5	540.5	538.2	534.7	532.4	531.3	531.3	531.3	530.1	527.9	530.1
27.5°	514.1	508.4	505.0	503.8	501.5	500.4	499.2	500.4	500.4	496.9	499.2
30°	479.8	475.2	472.9	471.7	468.3	467.2	468.3	468.3	468.3	464.9	468.3
32.5°	445.4	442.0	440.8	437.4	435.1	435.1	435.1	436.3	435.1	432.8	436.3
35°	411.1	406.5	405.3	404.2	404.2	401.9	404.2	403.0	405.3	401.9	404.2
37.5°	374.4	372.1	371.0	371.0	368.7	369.8	369.8	369.8	372.1	368.7	371.0
40°	340.1	337.8	337.8	337.8	336.6	336.6	336.6	337.8	338.9	336.6	338.9
42.5°	305.7	304.6	304.6	303.4	302.3	303.4	304.6	304.6	305.7	303.4	304.6
45°	272.5	271.4	272.5	271.4	271.4	270.2	271.4	272.5	272.5	271.4	271.4
47.5°	241.6	241.6	240.5	240.5	240.5	240.5	240.5	240.5	240.5	238.2	240.5
50°	214.1	211.8	213.0	211.8	211.8	210.7	210.7	209.5	208.4	207.2	207.2
52.5°	187.8	185.5	185.5	184.3	183.2	183.2	182.1	180.9	179.8	177.5	177.5
55°	162.6	160.3	159.2	158.0	156.9	155.7	154.6	153.4	151.1	150.0	150.0
57.5°	139.7	137.4	135.1	135.1	132.8	131.7	129.4	127.1	126.0	123.7	123.7
60°	119.1	116.8	113.4	112.2	111.1	108.8	105.3	104.2	103.1	100.8	101.9
62.5°	99.6	96.2	92.7	91.6	90.5	88.2	85.9	83.6	82.4	83.6	83.6
65°	81.3	77.9	75.6	73.3	72.1	69.8	68.7	67.6	67.6	67.6	68.7
67.5°	65.3	61.8	59.5	58.4	56.1	55.0	55.0	55.0	55.0	55.0	55.0
70°	51.5	49.2	46.9	44.7	44.7	43.5	43.5	43.5	43.5	43.5	43.5
72.5°	38.9	36.6	35.5	35.5	34.4	34.4	34.4	34.4	33.2	33.2	34.4
75°	28.6	27.5	26.3	26.3	26.3	25.2	25.2	25.2	25.2	25.2	25.2
77.5°	20.6	19.5	19.5	18.3	18.3	18.3	18.3	18.3	18.3	17.2	17.2
80°	13.7	12.6	12.6	12.6	12.6	11.5	11.5	11.5	11.5	11.5	11.5
82.5°	8.0	8.0	8.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
85°	4.6	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
87.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	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°	744.3	744.3	744.3	744.3	744.3	744.3	744.3	744.3
2.5°	730.5	735.1	736.2	732.8	734.0	731.7	732.8	730.5
5°	717.9	721.4	722.5	720.2	720.2	717.9	719.1	716.8
7.5°	701.9	705.3	706.5	704.2	704.2	701.9	701.9	700.8
10°	683.6	684.7	687.0	683.6	684.7	682.4	682.4	680.1
12.5°	660.7	663.0	665.3	661.8	661.8	660.7	660.7	657.2
15°	636.6	638.9	640.1	637.8	637.8	636.6	635.5	634.3
17.5°	611.4	612.6	614.9	611.4	613.7	611.4	611.4	609.2
20°	582.8	586.3	587.4	584.0	585.1	584.0	584.0	584.0
22.5°	555.3	557.6	558.8	556.5	557.6	555.3	556.5	554.2
25°	526.7	527.9	529.0	526.7	529.0	527.9	526.7	526.7
27.5°	496.9	498.1	499.2	496.9	499.2	498.1	499.2	496.9
30°	464.9	467.2	469.5	467.2	468.3	467.2	467.2	466.0
32.5°	432.8	435.1	437.4	435.1	437.4	435.1	436.3	434.0
35°	403.0	404.2	405.3	403.0	404.2	404.2	404.2	403.0
37.5°	369.8	372.1	372.1	371.0	373.3	372.1	372.1	369.8
40°	337.8	338.9	340.1	337.8	338.9	337.8	338.9	337.8
42.5°	304.6	306.9	308.0	305.7	305.7	305.7	304.6	305.7
45°	270.2	272.5	274.8	271.4	272.5	272.5	272.5	271.4
47.5°	239.3	239.3	240.5	239.3	240.5	238.2	240.5	239.3
50°	207.2	207.2	209.5	207.2	207.2	207.2	207.2	207.2
52.5°	176.3	177.5	177.5	175.2	176.3	175.2	176.3	175.2
55°	147.7	147.7	148.9	147.7	147.7	147.7	147.7	147.7
57.5°	122.5	123.7	123.7	122.5	123.7	122.5	122.5	122.5
60°	101.9	101.9	101.9	100.8	101.9	100.8	101.9	100.8
62.5°	82.4	83.6	83.6	82.4	83.6	82.4	82.4	82.4
65°	67.6	67.6	67.6	67.6	67.6	67.6	67.6	66.4
67.5°	53.8	53.8	55.0	53.8	55.0	55.0	55.0	55.0
70°	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5
72.5°	33.2	33.2	34.4	33.2	33.2	33.2	33.2	33.2
75°	25.2	25.2	25.2	25.2	25.2	24.0	24.0	25.2
77.5°	17.2	17.2	17.2	17.2	17.2	17.2	17.2	18.3
80°	11.5	11.5	11.5	11.5	10.3	10.3	11.5	10.3
82.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
85°	3.4	3.4	2.3	2.3	2.3	2.3	2.3	2.3
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)