

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: P251692

Luminaire Tested: **LD4B20D010 EU4B10209027 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251692
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B20D010 EU4B10209027 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1345.0 lumens
Efficiency: N/A
Efficacy: 64.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

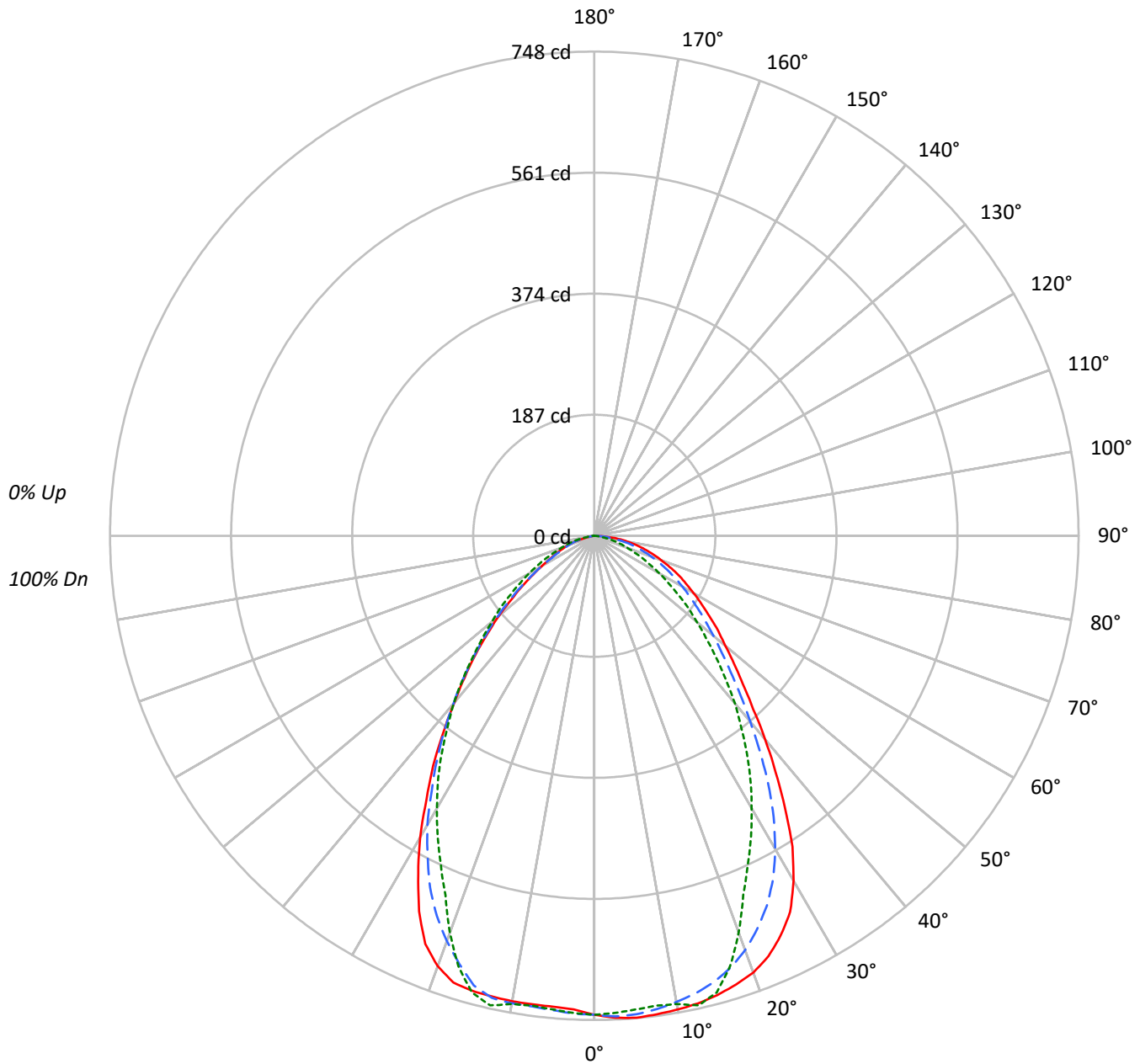
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	102	99	101	98	96	97	95	93	93	91	90	88		
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77		
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67		
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60		
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53		
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48		
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43		
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39		
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36		
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	72109	72109	72109
5°	73128	71856	71436
10°	73548	72687	72262
15°	74108	73674	73452
20°	74486	67631	73366
25°	73262	60315	68832
30°	69231	54703	60555
35°	61058	48922	51635
40°	52174	42925	42785
45°	44711	36634	35738
50°	39966	31248	29111
55°	36871	26727	23040
60°	34461	22630	18186
65°	33023	18771	15012
70°	31230	15159	12680
75°	30237	12238	9000
80°	29241	6679	2413
85°	25495	3690	1230



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.3	5.2
10°-20°	202.2	15.0
20°-30°	280.5	20.9
30°-40°	276.9	20.6
40°-50°	217.2	16.1
50°-60°	150.4	11.2
60°-70°	92.2	6.9
70°-80°	46.1	3.4
80°-90°	9.2	0.7
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°	553.1	41.1
0°-40°	829.9	61.7
0°-60°	1197.5	89.0
0°-90°	1345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1345.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	740	740	740	740	740	
5°	748	742	734	736	730	71
15°	734	714	730	719	728	207
25°	681	630	561	600	640	312
35°	513	469	411	424	434	320
45°	324	297	266	263	259	254
55°	217	194	157	140	136	195
65°	143	124	81	61	65	141
75°	80	67	32	25	24	85
85°	23	13	3	1	1	26
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°	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9
2.5°	745.4	743.2	742.1	745.4	744.3	746.4	745.4	744.3	742.1	743.2	743.2
5°	747.5	744.3	743.2	745.4	745.4	747.5	746.4	744.3	742.1	743.2	742.1
7.5°	745.4	743.2	743.2	744.3	743.2	745.4	743.2	741.0	738.9	739.9	737.8
10°	743.2	739.9	739.9	739.9	739.9	742.1	739.9	736.7	733.4	733.4	731.3
12.5°	739.9	736.7	736.7	737.8	735.6	737.8	735.6	730.2	726.9	725.8	723.7
15°	734.5	731.3	731.3	731.3	729.1	730.2	726.9	721.5	717.2	717.2	713.9
17.5°	726.9	723.7	722.6	722.6	719.3	720.4	717.2	711.7	705.2	703.0	699.8
20°	718.2	713.9	711.7	711.7	708.5	709.6	705.2	698.7	690.0	686.8	681.3
22.5°	703.0	700.9	697.6	696.5	693.3	692.2	687.9	679.2	671.6	666.2	657.5
25°	681.3	680.3	677.0	675.9	671.6	669.4	665.1	655.3	647.7	639.0	630.4
27.5°	655.3	651.0	648.8	645.5	641.2	640.1	634.7	626.0	614.1	608.7	597.8
30°	615.2	613.0	610.8	607.6	603.2	601.1	597.8	588.0	578.3	568.5	558.8
32.5°	569.6	565.3	562.0	563.1	557.7	555.5	550.1	541.4	532.7	526.2	515.4
35°	513.2	512.1	511.0	508.8	504.5	503.4	499.1	492.6	482.8	475.2	468.7
37.5°	460.0	456.8	454.6	454.6	450.3	450.3	447.0	439.4	434.0	428.6	419.9
40°	410.1	404.7	404.7	404.7	400.3	401.4	399.3	391.7	386.2	379.7	374.3
42.5°	363.5	361.3	360.2	358.0	355.9	355.9	353.7	349.4	343.9	339.6	334.2
45°	324.4	323.3	322.2	321.1	319.0	317.9	316.8	310.3	307.0	302.7	297.3
47.5°	292.9	290.8	289.7	288.6	286.4	285.3	283.2	278.8	275.6	271.2	266.9
50°	263.6	262.6	261.5	261.5	259.3	258.2	256.0	252.8	247.4	245.2	239.8
52.5°	240.9	238.7	236.5	236.5	234.3	234.3	231.1	227.8	222.4	220.2	215.9
55°	217.0	215.9	214.8	214.8	212.7	211.6	210.5	206.1	201.8	198.5	194.2
57.5°	196.4	195.3	194.2	194.2	192.0	191.0	189.9	186.6	182.3	180.1	174.7
60°	176.8	176.8	175.8	174.7	173.6	172.5	171.4	168.2	164.9	161.7	157.3
62.5°	159.5	158.4	157.3	156.2	156.2	155.1	154.1	149.7	147.6	144.3	140.0
65°	143.2	141.0	141.0	140.0	140.0	138.9	137.8	133.4	131.3	128.0	123.7
67.5°	125.9	124.8	123.7	123.7	122.6	122.6	121.5	118.3	115.0	112.8	108.5
70°	109.6	109.6	108.5	108.5	107.4	106.3	106.3	104.2	100.9	97.6	93.3
72.5°	95.5	94.4	93.3	93.3	92.2	92.2	91.1	89.0	86.8	84.6	79.2
75°	80.3	79.2	79.2	79.2	78.1	78.1	77.0	74.9	72.7	70.5	67.3
77.5°	66.2	66.2	65.1	65.1	64.0	64.0	64.0	61.8	59.7	57.5	53.2
80°	52.1	52.1	52.1	51.0	49.9	49.9	49.9	47.7	45.6	43.4	40.1
82.5°	38.0	36.9	36.9	35.8	34.7	34.7	34.7	32.5	31.5	28.2	26.0
85°	22.8	21.7	21.7	20.6	19.5	19.5	19.5	18.4	16.3	15.2	13.0
87.5°	8.7	8.7	8.7	8.7	8.7	7.6	7.6	6.5	6.5	5.4	5.4
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9
2.5°	743.2	742.1	742.1	741.0	742.1	739.9	739.9	739.9	739.9	737.8	737.8
5°	741.0	741.0	739.9	738.9	739.9	737.8	738.9	737.8	737.8	734.5	734.5
7.5°	736.7	735.6	733.4	732.3	733.4	732.3	732.3	732.3	734.5	732.3	732.3
10°	729.1	728.0	725.8	724.7	724.7	723.7	725.8	728.0	732.3	734.5	738.9
12.5°	721.5	719.3	718.2	718.2	719.3	719.3	723.7	729.1	739.9	743.2	747.5
15°	711.7	710.6	710.6	713.9	718.2	721.5	730.2	733.4	734.5	730.2	728.0
17.5°	698.7	698.7	699.8	703.0	706.3	706.3	707.4	705.2	703.0	697.6	691.1
20°	677.0	675.9	673.8	673.8	673.8	669.4	671.6	664.0	658.6	652.1	642.3
22.5°	649.9	644.5	636.9	631.4	628.2	626.0	620.6	611.9	605.4	601.1	596.7
25°	620.6	611.9	601.1	592.4	587.0	585.9	578.3	570.7	566.3	560.9	558.8
27.5°	587.0	577.2	564.2	555.5	551.2	547.9	541.4	533.8	528.4	524.0	520.8
30°	547.9	538.1	527.3	516.4	512.1	506.7	500.2	494.7	489.3	486.1	483.9
32.5°	504.5	494.7	483.9	476.3	470.9	466.5	461.1	455.7	451.3	449.2	447.0
35°	460.0	450.3	441.6	434.0	429.6	426.4	422.0	415.5	412.3	411.2	409.0
37.5°	412.3	405.8	398.2	391.7	388.4	384.1	381.9	376.5	376.5	372.1	372.1
40°	367.8	363.5	355.9	350.4	348.3	345.0	341.8	339.6	338.5	337.4	336.3
42.5°	328.7	322.2	317.9	313.6	310.3	308.1	308.1	304.9	303.8	300.5	299.4
45°	292.9	289.7	282.1	278.8	277.7	274.5	273.4	271.2	268.0	265.8	264.7
47.5°	261.5	258.2	253.9	249.5	247.4	245.2	243.0	239.8	237.6	234.3	233.3
50°	235.4	230.0	225.7	222.4	219.2	218.1	215.9	211.6	209.4	206.1	206.1
52.5°	211.6	207.2	201.8	198.5	195.3	193.1	189.9	186.6	183.4	182.3	179.0
55°	191.0	185.5	180.1	175.8	172.5	169.3	168.2	163.8	159.5	157.3	155.1
57.5°	171.4	166.0	159.5	154.1	151.9	149.7	146.5	142.1	138.9	135.6	133.4
60°	151.9	147.6	141.0	135.6	133.4	130.2	126.9	122.6	119.3	116.1	113.9
62.5°	135.6	129.1	123.7	118.3	115.0	112.8	108.5	105.2	100.9	97.6	94.4
65°	119.3	112.8	107.4	102.0	99.8	96.6	93.3	89.0	84.6	81.4	77.0
67.5°	103.1	97.6	92.2	86.8	84.6	82.5	78.1	73.8	69.4	66.2	61.8
70°	89.0	83.5	78.1	73.8	71.6	69.4	65.1	60.8	57.5	53.2	49.9
72.5°	75.9	71.6	66.2	61.8	59.7	57.5	53.2	49.9	45.6	43.4	40.1
75°	62.9	58.6	54.2	49.9	47.7	45.6	42.3	39.1	35.8	32.5	30.4
77.5°	49.9	45.6	41.2	38.0	35.8	34.7	31.5	28.2	25.0	22.8	19.5
80°	36.9	32.5	29.3	26.0	23.9	22.8	19.5	17.4	15.2	11.9	10.8
82.5°	22.8	19.5	17.4	15.2	14.1	13.0	10.8	8.7	7.6	6.5	5.4
85°	11.9	10.8	8.7	7.6	6.5	6.5	5.4	4.3	3.3	3.3	2.2
87.5°	4.3	3.3	3.3	2.2	2.2	2.2	2.2	1.1	1.1	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°	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9
2.5°	735.6	736.7	737.8	738.9	737.8	737.8	739.9	735.6	738.9	738.9	734.5
5°	733.4	735.6	734.5	736.7	734.5	734.5	735.6	733.4	735.6	735.6	732.3
7.5°	731.3	733.4	733.4	734.5	733.4	733.4	734.5	731.3	733.4	733.4	730.2
10°	741.0	743.2	742.1	741.0	737.8	735.6	736.7	731.3	733.4	733.4	730.2
12.5°	744.3	743.2	738.9	736.7	734.5	732.3	733.4	729.1	731.3	731.3	729.1
15°	722.6	720.4	717.2	718.2	716.1	715.0	717.2	715.0	719.3	721.5	719.3
17.5°	685.7	684.6	682.4	682.4	682.4	683.5	686.8	686.8	693.3	697.6	699.8
20°	638.0	636.9	638.0	640.1	641.2	645.5	653.1	657.5	666.2	673.8	679.2
22.5°	594.6	596.7	600.0	604.3	605.4	610.8	620.6	624.9	635.8	644.5	649.9
25°	557.7	560.9	563.1	566.3	567.4	573.9	582.6	588.0	600.0	606.5	613.0
27.5°	520.8	525.1	526.2	530.5	530.5	537.1	544.6	550.1	557.7	564.2	569.6
30°	485.0	486.1	489.3	490.4	492.6	499.1	503.4	506.7	515.4	518.6	521.9
32.5°	445.9	450.3	452.4	453.5	452.4	457.8	462.2	464.4	467.6	472.0	474.1
35°	409.0	411.2	412.3	414.5	415.5	416.6	418.8	419.9	424.2	425.3	426.4
37.5°	372.1	375.4	374.3	375.4	375.4	376.5	378.6	377.6	380.8	381.9	380.8
40°	335.3	335.3	337.4	336.3	337.4	336.3	338.5	338.5	338.5	339.6	338.5
42.5°	298.4	299.4	298.4	300.5	298.4	299.4	299.4	298.4	299.4	298.4	298.4
45°	264.7	264.7	264.7	264.7	262.6	262.6	264.7	263.6	262.6	261.5	260.4
47.5°	232.2	233.3	231.1	232.2	231.1	230.0	228.9	228.9	227.8	225.7	224.6
50°	205.1	202.9	201.8	202.9	201.8	200.7	199.6	197.5	196.4	194.2	193.1
52.5°	177.9	175.8	173.6	173.6	172.5	170.3	169.3	167.1	166.0	163.8	163.8
55°	154.1	151.9	149.7	148.6	146.5	144.3	143.2	141.0	140.0	137.8	135.6
57.5°	131.3	128.0	125.9	124.8	123.7	120.4	119.3	117.2	115.0	112.8	111.8
60°	110.7	107.4	104.2	103.1	102.0	98.7	97.6	94.4	93.3	91.1	90.1
62.5°	91.1	89.0	84.6	83.5	81.4	79.2	75.9	74.9	73.8	74.9	74.9
65°	73.8	70.5	67.3	66.2	64.0	61.8	60.8	59.7	60.8	60.8	61.8
67.5°	58.6	55.3	52.1	52.1	51.0	48.8	48.8	48.8	49.9	49.9	51.0
70°	46.7	44.5	42.3	41.2	41.2	40.1	41.2	41.2	42.3	42.3	42.3
72.5°	36.9	35.8	34.7	33.6	33.6	33.6	33.6	33.6	33.6	33.6	34.7
75°	28.2	27.1	26.0	26.0	25.0	25.0	25.0	25.0	25.0	25.0	23.9
77.5°	18.4	17.4	16.3	16.3	15.2	14.1	14.1	13.0	13.0	13.0	13.0
80°	9.8	8.7	7.6	6.5	6.5	5.4	5.4	5.4	5.4	4.3	4.3
82.5°	4.3	3.3	3.3	3.3	3.3	2.2	2.2	2.2	2.2	2.2	2.2
85°	2.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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°	739.9	739.9	739.9	739.9	739.9	739.9	739.9	739.9
2.5°	736.7	734.5	736.7	737.8	735.6	734.5	736.7	732.3
5°	735.6	732.3	733.4	734.5	732.3	731.3	733.4	730.2
7.5°	733.4	732.3	733.4	734.5	731.3	731.3	733.4	730.2
10°	733.4	731.3	732.3	734.5	732.3	732.3	734.5	730.2
12.5°	732.3	729.1	732.3	733.4	731.3	731.3	733.4	729.1
15°	724.7	724.7	725.8	728.0	726.9	728.0	731.3	728.0
17.5°	708.5	710.6	715.0	718.2	720.4	722.6	725.8	723.7
20°	688.9	692.2	697.6	700.9	705.2	706.3	711.7	707.4
22.5°	658.6	665.1	669.4	672.7	675.9	679.2	683.5	682.4
25°	621.7	626.0	629.3	632.5	636.9	639.0	641.2	640.1
27.5°	577.2	579.4	583.7	585.9	588.0	590.2	594.6	589.1
30°	528.4	529.5	531.6	534.9	534.9	537.1	539.2	538.1
32.5°	478.5	478.5	480.6	482.8	481.7	482.8	487.1	481.7
35°	429.6	428.6	431.8	432.9	432.9	431.8	435.1	434.0
37.5°	381.9	383.0	384.1	385.2	383.0	385.2	385.2	383.0
40°	338.5	337.4	339.6	340.7	339.6	340.7	340.7	336.3
42.5°	299.4	297.3	298.4	299.4	298.4	299.4	298.4	296.2
45°	261.5	260.4	260.4	261.5	259.3	259.3	259.3	259.3
47.5°	225.7	224.6	225.7	225.7	223.5	223.5	224.6	223.5
50°	193.1	192.0	192.0	192.0	191.0	191.0	192.0	192.0
52.5°	163.8	161.7	161.7	161.7	161.7	161.7	162.7	160.6
55°	134.5	134.5	134.5	134.5	135.6	135.6	135.6	135.6
57.5°	110.7	111.8	111.8	112.8	111.8	112.8	112.8	111.8
60°	92.2	91.1	92.2	92.2	93.3	93.3	93.3	93.3
62.5°	75.9	75.9	75.9	77.0	77.0	77.0	78.1	77.0
65°	62.9	62.9	64.0	64.0	64.0	65.1	65.1	65.1
67.5°	52.1	52.1	52.1	52.1	53.2	53.2	54.2	53.2
70°	43.4	43.4	43.4	43.4	43.4	44.5	44.5	44.5
72.5°	34.7	34.7	34.7	34.7	35.8	35.8	35.8	35.8
75°	23.9	23.9	23.9	25.0	23.9	23.9	23.9	23.9
77.5°	11.9	11.9	11.9	11.9	11.9	10.8	10.8	10.8
80°	4.3	4.3	4.3	4.3	4.3	4.3	3.3	4.3
82.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.1
85°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)