

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: P251774

Luminaire Tested: **LD4B20D010 EU4B10209050 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251774
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 EU4B10209050 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1350.0 lumens
Efficiency: N/A
Efficacy: 64.9 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

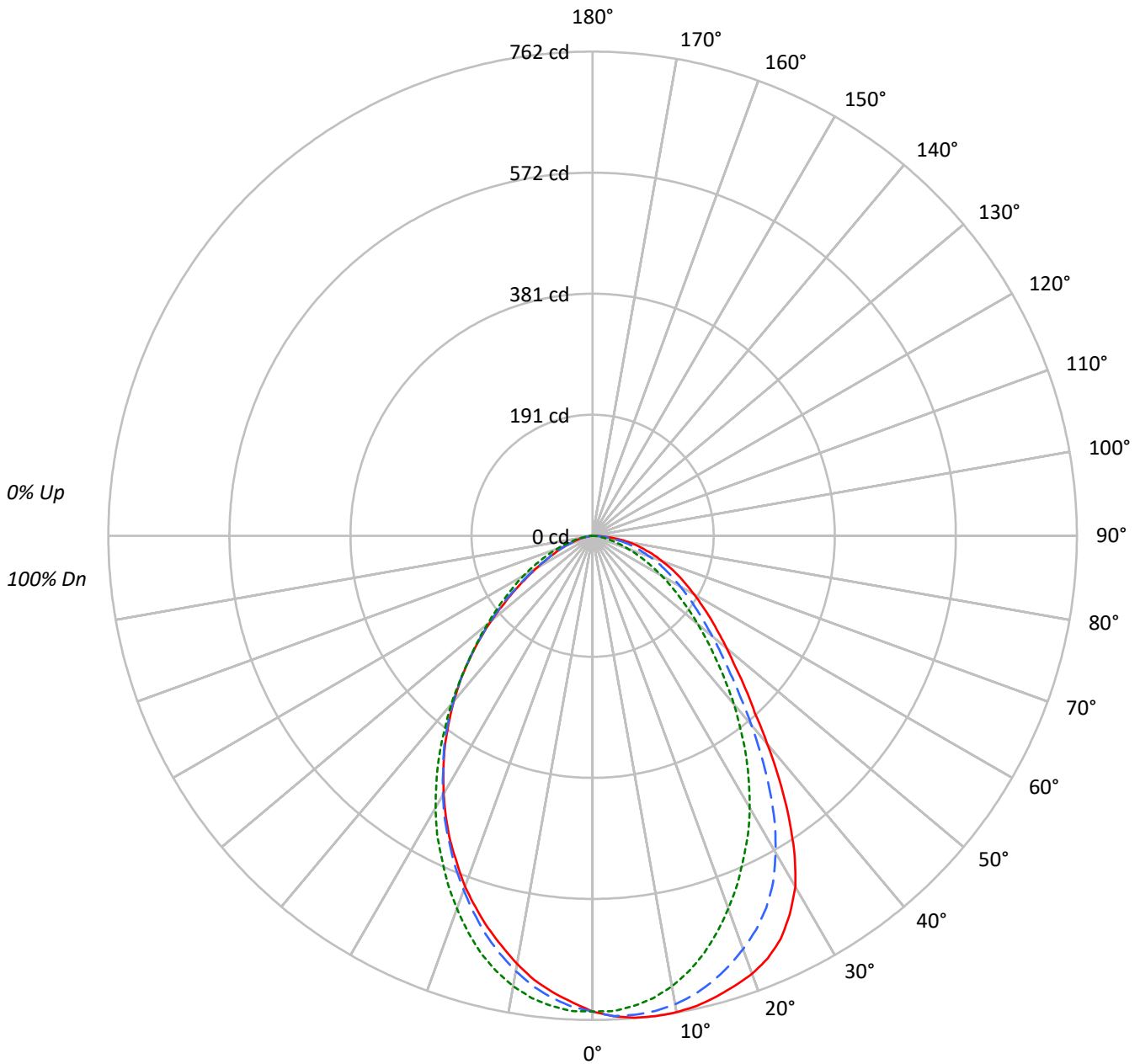
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	72967	72967	72967
5°	74488	72678	70545
10°	75349	71242	67709
15°	75773	68569	64382
20°	76094	64748	60921
25°	75305	60315	56971
30°	71809	55603	52756
35°	63865	50017	48244
40°	54362	43968	43230
45°	46833	37778	37627
50°	41740	32658	31612
55°	38366	28189	25249
60°	35923	24248	19764
65°	34522	20455	15404
70°	33139	16413	12481
75°	32082	13029	9527
80°	32327	9036	5837
85°	27061	6486	2572



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.1	5.2
10°-20°	192.7	14.3
20°-30°	269.5	20.0
30°-40°	277.0	20.5
40°-50°	224.8	16.7
50°-60°	158.3	11.7
60°-70°	97.5	7.2
70°-80°	48.7	3.6
80°-90°	11.6	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°	532.2	39.4
0°-40°	809.2	59.9
0°-60°	1192.3	88.3
0°-90°	1350.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1350.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	749	749	749	749	749	
5°	761	757	743	730	721	73
15°	751	727	680	650	638	212
25°	700	646	561	533	530	320
35°	537	485	420	408	406	334
45°	340	306	274	274	273	264
55°	226	198	166	152	149	203
65°	150	126	89	68	67	148
75°	85	67	35	25	25	91
85°	24	16	6	4	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°	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7
2.5°	756.8	757.9	754.5	757.9	753.3	755.6	756.8	754.5	752.2	756.8	756.8
5°	761.4	761.4	757.9	762.5	756.8	757.9	760.2	756.8	753.3	757.9	756.8
7.5°	762.5	762.5	757.9	762.5	756.8	757.9	759.1	755.6	752.2	755.6	754.5
10°	761.4	760.2	756.8	761.4	755.6	755.6	756.8	753.3	747.5	751.0	748.7
12.5°	757.9	757.9	753.3	757.9	749.9	749.9	751.0	746.4	741.8	741.8	739.5
15°	751.0	751.0	746.4	749.9	742.9	742.9	741.8	737.2	731.4	731.4	726.8
17.5°	742.9	742.9	738.3	741.8	733.7	733.7	732.6	725.7	717.6	716.4	710.7
20°	733.7	733.7	728.0	730.3	721.1	721.1	719.9	711.8	702.6	700.3	692.3
22.5°	719.9	719.9	714.1	715.3	706.1	704.9	703.8	694.6	685.3	681.9	671.5
25°	700.3	699.2	694.6	694.6	685.3	683.0	680.7	671.5	662.3	655.4	646.2
27.5°	671.5	672.7	666.9	668.1	656.6	654.2	653.1	641.6	631.2	624.3	615.1
30°	638.1	634.7	628.9	628.9	619.7	618.5	616.2	605.9	594.4	586.3	575.9
32.5°	590.9	589.7	584.0	584.0	573.6	573.6	569.0	558.6	548.3	543.7	533.3
35°	536.8	535.6	531.0	531.0	521.8	522.9	518.3	510.3	499.9	493.0	484.9
37.5°	481.5	480.3	475.7	476.9	468.8	468.8	465.3	457.3	449.2	445.8	435.4
40°	427.3	426.2	420.4	423.9	417.0	414.7	413.5	407.8	398.5	393.9	388.2
42.5°	377.8	379.0	373.2	375.5	369.7	367.4	366.3	361.7	354.8	350.2	344.4
45°	339.8	337.5	335.2	335.2	329.4	328.3	327.1	321.4	316.8	312.2	306.4
47.5°	304.1	301.8	299.5	300.6	296.0	294.9	292.6	288.0	282.2	279.9	274.1
50°	275.3	274.1	270.7	270.7	266.1	264.9	262.6	259.2	253.4	250.0	245.3
52.5°	248.8	248.8	245.3	244.2	240.7	239.6	238.4	233.8	229.2	224.6	220.0
55°	225.8	224.6	222.3	222.3	217.7	216.5	215.4	210.8	206.2	202.7	198.1
57.5°	203.9	203.9	201.6	201.6	198.1	195.8	195.8	191.2	185.4	183.1	177.4
60°	184.3	184.3	182.0	182.0	178.5	178.5	176.2	171.6	168.2	163.6	159.0
62.5°	165.9	167.0	164.7	163.6	160.1	159.0	159.0	155.5	149.7	146.3	141.7
65°	149.7	148.6	147.4	146.3	142.8	141.7	141.7	137.1	133.6	129.0	125.6
67.5°	132.5	132.5	130.2	130.2	127.9	126.7	124.4	120.9	117.5	114.0	110.6
70°	116.3	116.3	115.2	115.2	111.7	110.6	109.4	106.0	102.5	99.1	94.5
72.5°	101.4	100.2	99.1	99.1	96.8	95.6	94.5	91.0	87.5	84.1	80.6
75°	85.2	85.2	84.1	84.1	81.8	80.6	80.6	78.3	73.7	71.4	66.8
77.5°	71.4	71.4	70.3	70.3	68.0	68.0	66.8	63.4	61.0	57.6	55.3
80°	57.6	56.4	56.4	55.3	53.0	53.0	51.8	50.7	47.2	44.9	41.5
82.5°	40.3	40.3	40.3	39.2	38.0	38.0	36.9	34.6	32.3	31.1	27.6
85°	24.2	24.2	23.0	21.9	23.0	21.9	20.7	19.6	18.4	17.3	16.1
87.5°	10.4	10.4	9.2	9.2	9.2	9.2	9.2	8.1	6.9	6.9	5.8
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°	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7
2.5°	749.9	753.3	752.2	751.0	748.7	748.7	748.7	747.5	748.7	748.7	746.4
5°	749.9	752.2	751.0	748.7	746.4	746.4	745.2	742.9	742.9	742.9	738.3
7.5°	746.4	748.7	745.2	742.9	740.6	738.3	738.3	734.9	734.9	733.7	729.1
10°	739.5	740.6	736.0	733.7	730.3	729.1	726.8	722.2	721.1	719.9	715.3
12.5°	729.1	730.3	724.5	719.9	715.3	714.1	711.8	706.1	703.8	701.5	695.7
15°	714.1	714.1	707.2	701.5	696.9	695.7	690.0	684.2	681.9	679.6	671.5
17.5°	696.9	695.7	686.5	680.7	675.0	672.7	666.9	660.0	655.4	653.1	646.2
20°	678.4	675.0	664.6	658.9	651.9	648.5	642.7	633.5	628.9	624.3	617.4
22.5°	656.6	651.9	640.4	632.4	625.5	622.0	613.9	605.9	599.0	594.4	586.3
25°	630.1	624.3	611.6	601.3	595.5	592.0	584.0	574.8	567.9	560.9	554.0
27.5°	599.0	592.0	579.4	569.0	563.3	557.5	551.7	541.4	535.6	529.8	521.8
30°	560.9	552.9	541.4	532.2	525.2	520.6	513.7	504.5	497.6	494.1	486.1
32.5°	519.5	510.3	499.9	490.7	487.2	481.5	475.7	466.5	460.7	457.3	451.5
35°	473.4	466.5	455.0	448.1	442.3	440.0	435.4	426.2	423.9	420.4	413.5
37.5°	425.0	419.3	411.2	405.5	400.8	398.5	393.9	388.2	384.7	381.3	377.8
40°	380.1	375.5	368.6	364.0	358.2	354.8	354.8	347.9	345.6	345.6	342.1
42.5°	336.3	334.0	328.3	321.4	320.2	316.8	315.6	312.2	309.8	308.7	307.5
45°	299.5	296.0	290.3	286.8	283.4	283.4	279.9	276.4	275.3	274.1	273.0
47.5°	267.2	262.6	258.0	254.6	252.3	251.1	247.6	245.3	244.2	244.2	243.0
50°	238.4	235.0	230.4	226.9	224.6	222.3	220.0	217.7	216.5	215.4	215.4
52.5°	214.2	209.6	205.0	201.6	198.1	197.0	194.7	192.4	191.2	190.1	188.9
55°	192.4	188.9	183.1	179.7	176.2	176.2	172.8	169.3	167.0	165.9	164.7
57.5°	171.6	168.2	162.4	159.0	156.7	154.3	152.0	149.7	147.4	145.1	142.8
60°	153.2	149.7	144.0	139.4	138.2	135.9	133.6	129.0	126.7	124.4	122.1
62.5°	135.9	131.3	126.7	122.1	120.9	118.6	115.2	111.7	108.3	106.0	102.5
65°	119.8	116.3	110.6	107.1	103.7	102.5	99.1	94.5	91.0	88.7	85.2
67.5°	104.8	100.2	94.5	91.0	88.7	86.4	82.9	79.5	76.0	72.6	69.1
70°	89.8	86.4	80.6	77.2	74.9	72.6	69.1	64.5	61.0	57.6	55.3
72.5°	76.0	71.4	66.8	63.4	61.0	58.7	55.3	51.8	48.4	46.1	42.6
75°	63.4	58.7	55.3	50.7	49.5	47.2	43.8	40.3	36.9	34.6	32.3
77.5°	50.7	47.2	42.6	40.3	38.0	35.7	33.4	29.9	27.6	24.2	21.9
80°	38.0	34.6	31.1	28.8	26.5	25.3	23.0	20.7	18.4	16.1	15.0
82.5°	25.3	23.0	19.6	18.4	17.3	16.1	13.8	12.7	11.5	10.4	9.2
85°	13.8	12.7	11.5	9.2	9.2	8.1	6.9	6.9	5.8	5.8	4.6
87.5°	5.8	4.6	4.6	3.5	3.5	3.5	2.3	2.3	2.3	1.2	1.2
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°	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7
2.5°	747.5	742.9	742.9	742.9	739.5	740.6	741.8	742.9	741.8	738.3	741.8
5°	739.5	734.9	734.9	732.6	730.3	730.3	730.3	731.4	730.3	726.8	728.0
7.5°	729.1	723.4	722.2	719.9	717.6	716.4	716.4	716.4	715.3	710.7	713.0
10°	713.0	707.2	704.9	703.8	700.3	699.2	698.0	696.9	695.7	691.1	693.4
12.5°	693.4	688.8	684.2	683.0	679.6	677.3	676.1	676.1	673.8	669.2	671.5
15°	670.4	663.5	660.0	657.7	654.2	651.9	649.6	650.8	649.6	645.0	646.2
17.5°	642.7	635.8	632.4	631.2	626.6	624.3	623.1	623.1	622.0	617.4	618.5
20°	612.8	605.9	603.6	601.3	599.0	596.7	595.5	594.4	593.2	588.6	592.0
22.5°	582.8	574.8	571.3	571.3	566.7	565.6	564.4	565.6	564.4	559.8	562.1
25°	551.7	543.7	541.4	537.9	535.6	534.5	534.5	534.5	533.3	531.0	533.3
27.5°	517.2	511.4	508.0	506.8	504.5	503.4	502.2	503.4	503.4	499.9	502.2
30°	482.6	478.0	475.7	474.6	471.1	470.0	471.1	471.1	471.1	467.6	471.1
32.5°	448.1	444.6	443.5	440.0	437.7	437.7	437.7	438.9	437.7	435.4	438.9
35°	413.5	408.9	407.8	406.6	406.6	404.3	406.6	405.5	407.8	404.3	406.6
37.5°	376.7	374.4	373.2	373.2	370.9	372.0	372.0	372.0	374.4	370.9	373.2
40°	342.1	339.8	339.8	339.8	338.6	338.6	338.6	339.8	340.9	338.6	340.9
42.5°	307.5	306.4	306.4	305.2	304.1	305.2	306.4	306.4	307.5	305.2	306.4
45°	274.1	273.0	274.1	273.0	273.0	271.8	273.0	274.1	274.1	273.0	273.0
47.5°	243.0	243.0	241.9	241.9	241.9	241.9	241.9	241.9	241.9	239.6	241.9
50°	215.4	213.1	214.2	213.1	213.1	211.9	211.9	210.8	209.6	208.5	208.5
52.5°	188.9	186.6	186.6	185.4	184.3	184.3	183.1	182.0	180.8	178.5	178.5
55°	163.6	161.3	160.1	159.0	157.8	156.7	155.5	154.3	152.0	150.9	150.9
57.5°	140.5	138.2	135.9	135.9	133.6	132.5	130.2	127.9	126.7	124.4	124.4
60°	119.8	117.5	114.0	112.9	111.7	109.4	106.0	104.8	103.7	101.4	102.5
62.5°	100.2	96.8	93.3	92.1	91.0	88.7	86.4	84.1	82.9	84.1	84.1
65°	81.8	78.3	76.0	73.7	72.6	70.3	69.1	68.0	68.0	68.0	69.1
67.5°	65.7	62.2	59.9	58.7	56.4	55.3	55.3	55.3	55.3	55.3	55.3
70°	51.8	49.5	47.2	44.9	44.9	43.8	43.8	43.8	43.8	43.8	43.8
72.5°	39.2	36.9	35.7	35.7	34.6	34.6	34.6	34.6	33.4	33.4	34.6
75°	28.8	27.6	26.5	26.5	26.5	25.3	25.3	25.3	25.3	25.3	25.3
77.5°	20.7	19.6	19.6	18.4	18.4	18.4	18.4	18.4	18.4	17.3	17.3
80°	13.8	12.7	12.7	12.7	12.7	11.5	11.5	11.5	11.5	11.5	11.5
82.5°	8.1	8.1	8.1	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
85°	4.6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
87.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	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°	748.7	748.7	748.7	748.7	748.7	748.7	748.7	748.7
2.5°	734.9	739.5	740.6	737.2	738.3	736.0	737.2	734.9
5°	722.2	725.7	726.8	724.5	724.5	722.2	723.4	721.1
7.5°	706.1	709.5	710.7	708.4	708.4	706.1	706.1	704.9
10°	687.7	688.8	691.1	687.7	688.8	686.5	686.5	684.2
12.5°	664.6	666.9	669.2	665.8	665.8	664.6	664.6	661.2
15°	640.4	642.7	643.9	641.6	641.6	640.4	639.3	638.1
17.5°	615.1	616.2	618.5	615.1	617.4	615.1	615.1	612.8
20°	586.3	589.7	590.9	587.4	588.6	587.4	587.4	587.4
22.5°	558.6	560.9	562.1	559.8	560.9	558.6	559.8	557.5
25°	529.8	531.0	532.2	529.8	532.2	531.0	529.8	529.8
27.5°	499.9	501.1	502.2	499.9	502.2	501.1	502.2	499.9
30°	467.6	470.0	472.3	470.0	471.1	470.0	470.0	468.8
32.5°	435.4	437.7	440.0	437.7	440.0	437.7	438.9	436.6
35°	405.5	406.6	407.8	405.5	406.6	406.6	406.6	405.5
37.5°	372.0	374.4	374.4	373.2	375.5	374.4	374.4	372.0
40°	339.8	340.9	342.1	339.8	340.9	339.8	340.9	339.8
42.5°	306.4	308.7	309.8	307.5	307.5	307.5	306.4	307.5
45°	271.8	274.1	276.4	273.0	274.1	274.1	274.1	273.0
47.5°	240.7	240.7	241.9	240.7	241.9	239.6	241.9	240.7
50°	208.5	208.5	210.8	208.5	208.5	208.5	208.5	208.5
52.5°	177.4	178.5	178.5	176.2	177.4	176.2	177.4	176.2
55°	148.6	148.6	149.7	148.6	148.6	148.6	148.6	148.6
57.5°	123.2	124.4	124.4	123.2	124.4	123.2	123.2	123.2
60°	102.5	102.5	102.5	101.4	102.5	101.4	102.5	101.4
62.5°	82.9	84.1	84.1	82.9	84.1	82.9	82.9	82.9
65°	68.0	68.0	68.0	68.0	68.0	68.0	68.0	66.8
67.5°	54.1	54.1	55.3	54.1	55.3	55.3	55.3	55.3
70°	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8
72.5°	33.4	33.4	34.6	33.4	33.4	33.4	33.4	33.4
75°	25.3	25.3	25.3	25.3	25.3	24.2	24.2	25.3
77.5°	17.3	17.3	17.3	17.3	17.3	17.3	17.3	18.4
80°	11.5	11.5	11.5	11.5	10.4	10.4	11.5	10.4
82.5°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
85°	3.5	3.5	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)