

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: P251681

Luminaire Tested: **LD4B15D010 EU4B10209035 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251681
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: LD4B15D010 EU4B10209035 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1048.0 lumens
Efficiency: N/A
Efficacy: 72.8 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

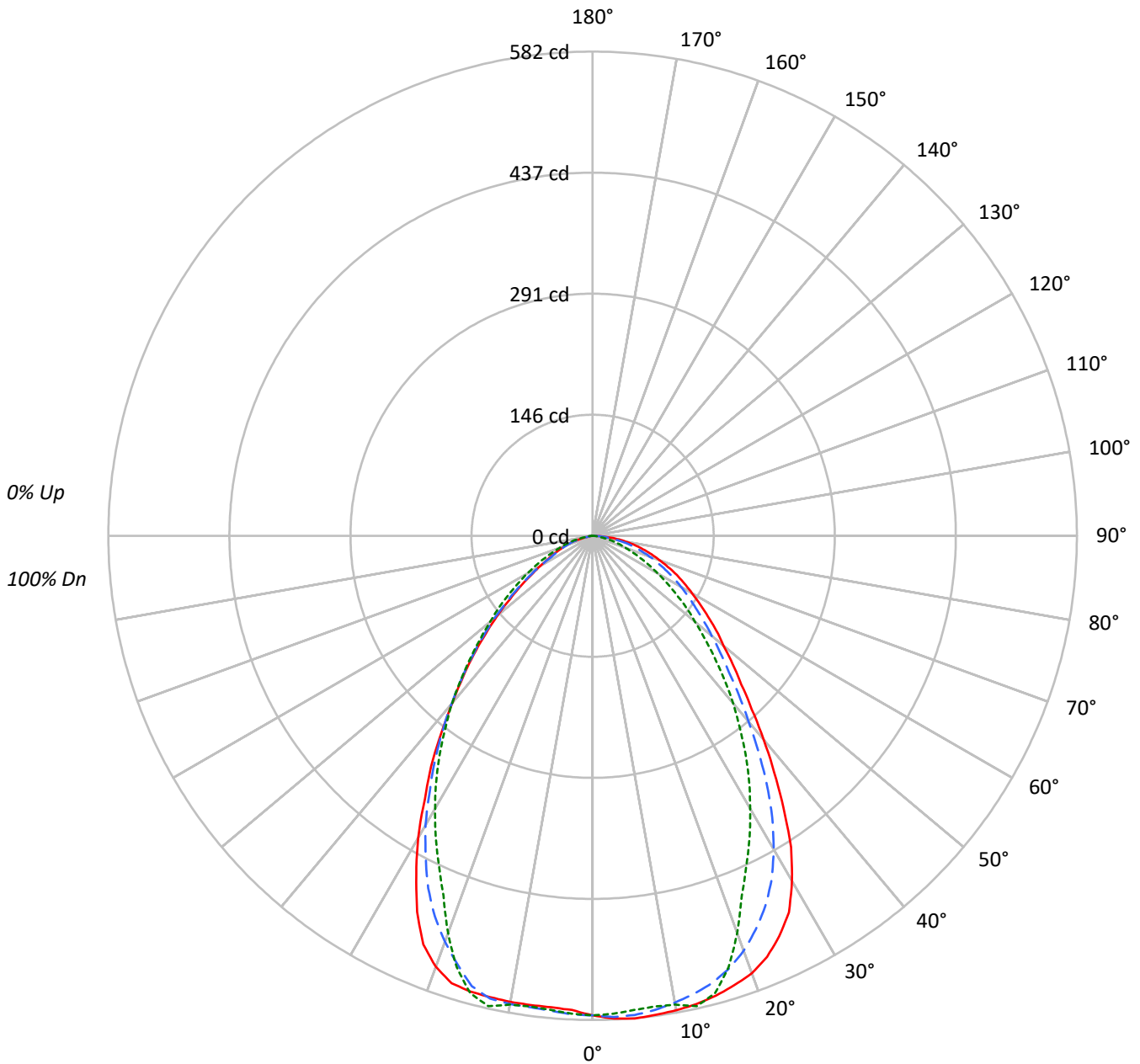
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	105	102	99	101	98	96	97	95	93	93	91	90	88				88															
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77				77															
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67				67															
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60				60															
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53				53															
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48				48															
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43				43															
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39				39															
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36				36															
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33				33															

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	56185	56185	56185
5°	56986	55988	55656
10°	57309	56636	56299
15°	57743	57400	57228
20°	58038	52696	57166
25°	57089	47003	53638
30°	53938	42617	47186
35°	47578	38119	40237
40°	40660	33447	33345
45°	34843	28544	27841
50°	31142	24350	22682
55°	28732	20831	17960
60°	26859	17640	14170
65°	25736	14620	11692
70°	24335	11797	9888
75°	23572	9564	7004
80°	22786	5220	1908
85°	19904	2796	895



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.8	5.2
10°-20°	157.6	15.0
20°-30°	218.6	20.9
30°-40°	215.7	20.6
40°-50°	169.2	16.1
50°-60°	117.2	11.2
60°-70°	71.8	6.9
70°-80°	35.9	3.4
80°-90°	7.2	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°	430.9	41.1
0°-40°	646.7	61.7
0°-60°	933.1	89.0
0°-90°	1048.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1048.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	576	576	576	576	576	
5°	582	578	572	573	569	55
15°	572	556	569	560	567	162
25°	531	491	437	468	499	243
35°	400	365	320	330	338	250
45°	253	232	207	205	202	198
55°	169	151	123	109	106	152
65°	112	96	63	47	51	110
75°	63	52	25	19	19	66
85°	18	10	2	1	1	20
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°	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5
2.5°	580.8	579.1	578.2	580.8	579.9	581.6	580.8	579.9	578.2	579.1	579.1
5°	582.5	579.9	579.1	580.8	580.8	582.5	581.6	579.9	578.2	579.1	578.2
7.5°	580.8	579.1	579.1	579.9	579.1	580.8	579.1	577.4	575.7	576.5	574.9
10°	579.1	576.5	576.5	576.5	576.5	578.2	576.5	574.0	571.5	571.5	569.8
12.5°	576.5	574.0	574.0	574.9	573.2	574.9	573.2	568.9	566.4	565.6	563.9
15°	572.3	569.8	569.8	569.8	568.1	568.9	566.4	562.2	558.8	558.8	556.3
17.5°	566.4	563.9	563.0	563.0	560.5	561.3	558.8	554.6	549.5	547.8	545.3
20°	559.6	556.3	554.6	554.6	552.0	552.9	549.5	544.4	537.7	535.1	530.9
22.5°	547.8	546.1	543.6	542.7	540.2	539.3	536.0	529.2	523.3	519.1	512.3
25°	530.9	530.1	527.5	526.7	523.3	521.6	518.2	510.6	504.7	497.9	491.2
27.5°	510.6	507.2	505.5	503.0	499.6	498.8	494.5	487.8	478.5	474.3	465.8
30°	479.3	477.6	475.9	473.4	470.0	468.3	465.8	458.2	450.6	443.0	435.4
32.5°	443.8	440.4	437.9	438.7	434.5	432.8	428.6	421.8	415.1	410.0	401.6
35°	399.9	399.0	398.2	396.5	393.1	392.3	388.9	383.8	376.2	370.3	365.2
37.5°	358.4	355.9	354.2	354.2	350.8	350.8	348.3	342.4	338.2	333.9	327.2
40°	319.6	315.3	315.3	315.3	311.9	312.8	311.1	305.2	301.0	295.9	291.7
42.5°	283.2	281.5	280.7	279.0	277.3	277.3	275.6	272.2	268.0	264.6	260.4
45°	252.8	251.9	251.1	250.2	248.5	247.7	246.8	241.8	239.2	235.9	231.6
47.5°	228.3	226.6	225.7	224.9	223.2	222.3	220.6	217.3	214.7	211.3	208.0
50°	205.4	204.6	203.7	203.7	202.0	201.2	199.5	197.0	192.7	191.1	186.8
52.5°	187.7	186.0	184.3	184.3	182.6	182.6	180.1	177.5	173.3	171.6	168.2
55°	169.1	168.2	167.4	167.4	165.7	164.8	164.0	160.6	157.2	154.7	151.3
57.5°	153.0	152.2	151.3	151.3	149.6	148.8	147.9	145.4	142.0	140.3	136.1
60°	137.8	137.8	137.0	136.1	135.3	134.4	133.6	131.0	128.5	126.0	122.6
62.5°	124.3	123.4	122.6	121.7	121.7	120.9	120.0	116.7	115.0	112.4	109.1
65°	111.6	109.9	109.9	109.1	109.1	108.2	107.4	104.0	102.3	99.8	96.4
67.5°	98.1	97.2	96.4	96.4	95.5	95.5	94.7	92.1	89.6	87.9	84.5
70°	85.4	85.4	84.5	84.5	83.7	82.8	82.8	81.2	78.6	76.1	72.7
72.5°	74.4	73.5	72.7	72.7	71.9	71.9	71.0	69.3	67.6	65.9	61.7
75°	62.6	61.7	61.7	61.7	60.9	60.9	60.0	58.3	56.6	54.9	52.4
77.5°	51.6	51.6	50.7	50.7	49.9	49.9	49.9	48.2	46.5	44.8	41.4
80°	40.6	40.6	40.6	39.7	38.9	38.9	38.9	37.2	35.5	33.8	31.3
82.5°	29.6	28.7	28.7	27.9	27.1	27.1	27.1	25.4	24.5	22.0	20.3
85°	17.8	16.9	16.9	16.1	15.2	15.2	15.2	14.4	12.7	11.8	10.1
87.5°	6.8	6.8	6.8	6.8	6.8	5.9	5.9	5.1	5.1	4.2	4.2
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5
2.5°	579.1	578.2	578.2	577.4	578.2	576.5	576.5	576.5	576.5	574.9	574.9
5°	577.4	577.4	576.5	575.7	576.5	574.9	575.7	574.9	574.9	572.3	572.3
7.5°	574.0	573.2	571.5	570.6	571.5	570.6	570.6	570.6	572.3	570.6	570.6
10°	568.1	567.2	565.6	564.7	564.7	563.9	565.6	567.2	570.6	572.3	575.7
12.5°	562.2	560.5	559.6	559.6	560.5	560.5	563.9	568.1	576.5	579.1	582.5
15°	554.6	553.7	553.7	556.3	559.6	562.2	568.9	571.5	572.3	568.9	567.2
17.5°	544.4	544.4	545.3	547.8	550.3	550.3	551.2	549.5	547.8	543.6	538.5
20°	527.5	526.7	525.0	525.0	525.0	521.6	523.3	517.4	513.1	508.1	500.5
22.5°	506.4	502.2	496.2	492.0	489.5	487.8	483.6	476.8	471.7	468.3	465.0
25°	483.6	476.8	468.3	461.6	457.3	456.5	450.6	444.7	441.3	437.1	435.4
27.5°	457.3	449.7	439.6	432.8	429.5	426.9	421.8	415.9	411.7	408.3	405.8
30°	426.9	419.3	410.9	402.4	399.0	394.8	389.7	385.5	381.3	378.7	377.0
32.5°	393.1	385.5	377.0	371.1	366.9	363.5	359.3	355.1	351.7	350.0	348.3
35°	358.4	350.8	344.1	338.2	334.8	332.2	328.9	323.8	321.2	320.4	318.7
37.5°	321.2	316.2	310.3	305.2	302.6	299.3	297.6	293.3	293.3	290.0	290.0
40°	286.6	283.2	277.3	273.1	271.4	268.8	266.3	264.6	263.8	262.9	262.1
42.5°	256.1	251.1	247.7	244.3	241.8	240.1	240.1	237.6	236.7	234.2	233.3
45°	228.3	225.7	219.8	217.3	216.4	213.9	213.0	211.3	208.8	207.1	206.3
47.5°	203.7	201.2	197.8	194.4	192.7	191.1	189.4	186.8	185.1	182.6	181.8
50°	183.4	179.2	175.8	173.3	170.8	169.9	168.2	164.8	163.2	160.6	160.6
52.5°	164.8	161.5	157.2	154.7	152.2	150.5	147.9	145.4	142.9	142.0	139.5
55°	148.8	144.6	140.3	137.0	134.4	131.9	131.0	127.7	124.3	122.6	120.9
57.5°	133.6	129.3	124.3	120.0	118.4	116.7	114.1	110.7	108.2	105.7	104.0
60°	118.4	115.0	109.9	105.7	104.0	101.4	98.9	95.5	93.0	90.5	88.8
62.5°	105.7	100.6	96.4	92.1	89.6	87.9	84.5	82.0	78.6	76.1	73.5
65°	93.0	87.9	83.7	79.5	77.8	75.2	72.7	69.3	65.9	63.4	60.0
67.5°	80.3	76.1	71.9	67.6	65.9	64.2	60.9	57.5	54.1	51.6	48.2
70°	69.3	65.1	60.9	57.5	55.8	54.1	50.7	47.3	44.8	41.4	38.9
72.5°	59.2	55.8	51.6	48.2	46.5	44.8	41.4	38.9	35.5	33.8	31.3
75°	49.0	45.7	42.3	38.9	37.2	35.5	33.0	30.4	27.9	25.4	23.7
77.5°	38.9	35.5	32.1	29.6	27.9	27.1	24.5	22.0	19.4	17.8	15.2
80°	28.7	25.4	22.8	20.3	18.6	17.8	15.2	13.5	11.8	9.3	8.5
82.5°	17.8	15.2	13.5	11.8	11.0	10.1	8.5	6.8	5.9	5.1	4.2
85°	9.3	8.5	6.8	5.9	5.1	5.1	4.2	3.4	2.5	2.5	1.7
87.5°	3.4	2.5	2.5	1.7	1.7	1.7	1.7	0.8	0.8	0.8	0.8
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5
2.5°	573.2	574.0	574.9	575.7	574.9	574.9	576.5	573.2	575.7	575.7	572.3
5°	571.5	573.2	572.3	574.0	572.3	572.3	573.2	571.5	573.2	573.2	570.6
7.5°	569.8	571.5	571.5	572.3	571.5	571.5	572.3	569.8	571.5	571.5	568.9
10°	577.4	579.1	578.2	577.4	574.9	573.2	574.0	569.8	571.5	571.5	568.9
12.5°	579.9	579.1	575.7	574.0	572.3	570.6	571.5	568.1	569.8	569.8	568.1
15°	563.0	561.3	558.8	559.6	557.9	557.1	558.8	557.1	560.5	562.2	560.5
17.5°	534.3	533.4	531.7	531.7	531.7	532.6	535.1	535.1	540.2	543.6	545.3
20°	497.1	496.2	497.1	498.8	499.6	503.0	508.9	512.3	519.1	525.0	529.2
22.5°	463.3	465.0	467.5	470.9	471.7	475.9	483.6	486.9	495.4	502.2	506.4
25°	434.5	437.1	438.7	441.3	442.1	447.2	454.0	458.2	467.5	472.6	477.6
27.5°	405.8	409.2	410.0	413.4	413.4	418.5	424.4	428.6	434.5	439.6	443.8
30°	377.9	378.7	381.3	382.1	383.8	388.9	392.3	394.8	401.6	404.1	406.6
32.5°	347.4	350.8	352.5	353.4	352.5	356.7	360.1	361.8	364.4	367.7	369.4
35°	318.7	320.4	321.2	322.9	323.8	324.6	326.3	327.2	330.5	331.4	332.2
37.5°	290.0	292.5	291.7	292.5	292.5	293.3	295.0	294.2	296.7	297.6	296.7
40°	261.2	261.2	262.9	262.1	262.9	262.1	263.8	263.8	263.8	264.6	263.8
42.5°	232.5	233.3	232.5	234.2	232.5	233.3	233.3	232.5	233.3	232.5	232.5
45°	206.3	206.3	206.3	206.3	204.6	204.6	206.3	205.4	204.6	203.7	202.9
47.5°	180.9	181.8	180.1	180.9	180.1	179.2	178.4	178.4	177.5	175.8	175.0
50°	159.8	158.1	157.2	158.1	157.2	156.4	155.5	153.9	153.0	151.3	150.5
52.5°	138.6	137.0	135.3	135.3	134.4	132.7	131.9	130.2	129.3	127.7	127.7
55°	120.0	118.4	116.7	115.8	114.1	112.4	111.6	109.9	109.1	107.4	105.7
57.5°	102.3	99.8	98.1	97.2	96.4	93.8	93.0	91.3	89.6	87.9	87.1
60°	86.2	83.7	81.2	80.3	79.5	76.9	76.1	73.5	72.7	71.0	70.2
62.5°	71.0	69.3	65.9	65.1	63.4	61.7	59.2	58.3	57.5	58.3	58.3
65°	57.5	54.9	52.4	51.6	49.9	48.2	47.3	46.5	47.3	47.3	48.2
67.5°	45.7	43.1	40.6	40.6	39.7	38.0	38.0	38.0	38.9	38.9	39.7
70°	36.4	34.7	33.0	32.1	32.1	31.3	32.1	32.1	33.0	33.0	33.0
72.5°	28.7	27.9	27.1	26.2	26.2	26.2	26.2	26.2	26.2	26.2	27.1
75°	22.0	21.1	20.3	20.3	19.4	19.4	19.4	19.4	19.4	19.4	18.6
77.5°	14.4	13.5	12.7	12.7	11.8	11.0	11.0	10.1	10.1	10.1	10.1
80°	7.6	6.8	5.9	5.1	5.1	4.2	4.2	4.2	4.2	3.4	3.4
82.5°	3.4	2.5	2.5	2.5	2.5	1.7	1.7	1.7	1.7	1.7	1.7
85°	1.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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°	576.5	576.5	576.5	576.5	576.5	576.5	576.5	576.5
2.5°	574.0	572.3	574.0	574.9	573.2	572.3	574.0	570.6
5°	573.2	570.6	571.5	572.3	570.6	569.8	571.5	568.9
7.5°	571.5	570.6	571.5	572.3	569.8	569.8	571.5	568.9
10°	571.5	569.8	570.6	572.3	570.6	570.6	572.3	568.9
12.5°	570.6	568.1	570.6	571.5	569.8	569.8	571.5	568.1
15°	564.7	564.7	565.6	567.2	566.4	567.2	569.8	567.2
17.5°	552.0	553.7	557.1	559.6	561.3	563.0	565.6	563.9
20°	536.8	539.3	543.6	546.1	549.5	550.3	554.6	551.2
22.5°	513.1	518.2	521.6	524.1	526.7	529.2	532.6	531.7
25°	484.4	487.8	490.3	492.9	496.2	497.9	499.6	498.8
27.5°	449.7	451.4	454.8	456.5	458.2	459.9	463.3	459.0
30°	411.7	412.5	414.2	416.8	416.8	418.5	420.2	419.3
32.5°	372.8	372.8	374.5	376.2	375.3	376.2	379.6	375.3
35°	334.8	333.9	336.5	337.3	337.3	336.5	339.0	338.2
37.5°	297.6	298.4	299.3	300.1	298.4	300.1	300.1	298.4
40°	263.8	262.9	264.6	265.4	264.6	265.4	265.4	262.1
42.5°	233.3	231.6	232.5	233.3	232.5	233.3	232.5	230.8
45°	203.7	202.9	202.9	203.7	202.0	202.0	202.0	202.0
47.5°	175.8	175.0	175.8	175.8	174.1	174.1	175.0	174.1
50°	150.5	149.6	149.6	149.6	148.8	148.8	149.6	149.6
52.5°	127.7	126.0	126.0	126.0	126.0	126.0	126.8	125.1
55°	104.8	104.8	104.8	104.8	105.7	105.7	105.7	105.7
57.5°	86.2	87.1	87.1	87.9	87.1	87.9	87.9	87.1
60°	71.9	71.0	71.9	71.9	72.7	72.7	72.7	72.7
62.5°	59.2	59.2	59.2	60.0	60.0	60.0	60.9	60.0
65°	49.0	49.0	49.9	49.9	49.9	50.7	50.7	50.7
67.5°	40.6	40.6	40.6	40.6	41.4	41.4	42.3	41.4
70°	33.8	33.8	33.8	33.8	33.8	34.7	34.7	34.7
72.5°	27.1	27.1	27.1	27.1	27.9	27.9	27.9	27.9
75°	18.6	18.6	18.6	19.4	18.6	18.6	18.6	18.6
77.5°	9.3	9.3	9.3	9.3	9.3	8.5	8.5	8.5
80°	3.4	3.4	3.4	3.4	3.4	3.4	2.5	3.4
82.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.8
85°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)