

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: P251683

Luminaire Tested: **LD4B15D010 EU4B10209050 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251683
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 EU4B10209050 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1054.0 lumens
Efficiency: N/A
Efficacy: 73.2 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

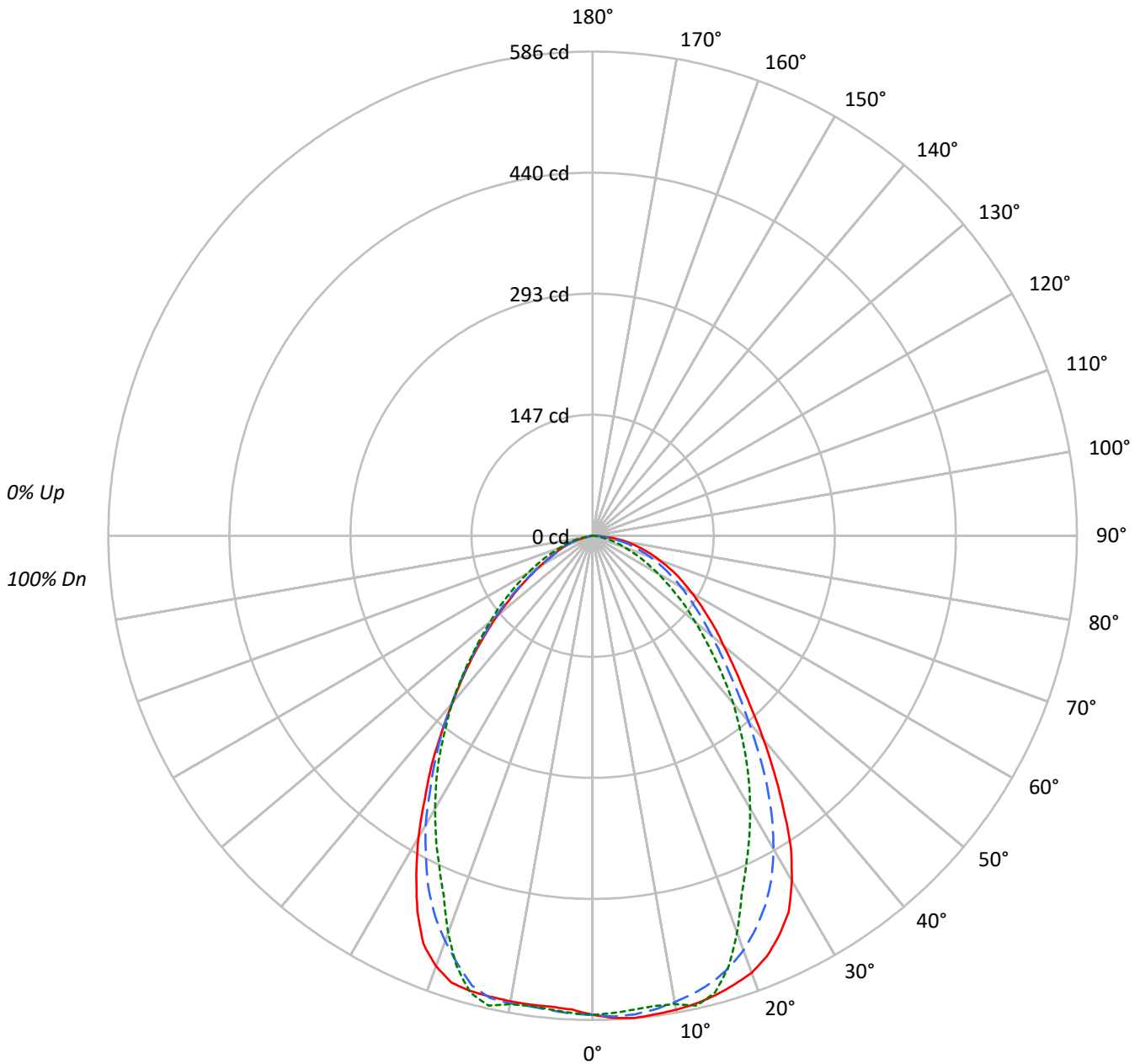
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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																			
1	111	107	103	100	108	105	101	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°	56506	56506	56506
5°	57309	56311	55979
10°	57635	56962	56626
15°	58076	57733	57561
20°	58370	52997	57488
25°	57412	47272	53939
30°	54253	42865	47456
35°	47851	38334	40463
40°	40889	33638	33536
45°	35036	28709	28006
50°	31324	24486	22818
55°	28885	20950	18062
60°	27015	17737	14248
65°	25874	14713	11761
70°	24477	11882	9945
75°	23685	9602	7041
80°	22899	5276	1908
85°	20016	2907	1006



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.1	5.2
10°-20°	158.5	15.0
20°-30°	219.8	20.9
30°-40°	217.0	20.6
40°-50°	170.2	16.1
50°-60°	117.9	11.2
60°-70°	72.2	6.9
70°-80°	36.1	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°	433.4	41.1
0°-40°	650.4	61.7
0°-60°	938.4	89.0
0°-90°	1054.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1054.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	580	580	580	580	580	
5°	586	582	576	576	572	56
15°	576	559	572	564	570	163
25°	534	494	440	470	502	244
35°	402	367	322	332	340	251
45°	254	233	208	206	203	199
55°	170	152	123	110	106	153
65°	112	97	64	48	51	111
75°	63	53	26	20	19	67
85°	18	10	3	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°	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8
2.5°	584.1	582.4	581.5	584.1	583.2	584.9	584.1	583.2	581.5	582.4	582.4
5°	585.8	583.2	582.4	584.1	584.1	585.8	584.9	583.2	581.5	582.4	581.5
7.5°	584.1	582.4	582.4	583.2	582.4	584.1	582.4	580.7	579.0	579.8	578.1
10°	582.4	579.8	579.8	579.8	579.8	581.5	579.8	577.3	574.7	574.7	573.0
12.5°	579.8	577.3	577.3	578.1	576.4	578.1	576.4	572.2	569.6	568.8	567.1
15°	575.6	573.0	573.0	573.0	571.3	572.2	569.6	565.4	562.0	562.0	559.4
17.5°	569.6	567.1	566.2	566.2	563.7	564.5	562.0	557.7	552.6	550.9	548.4
20°	562.8	559.4	557.7	557.7	555.2	556.0	552.6	547.5	540.7	538.2	533.9
22.5°	550.9	549.2	546.7	545.8	543.3	542.4	539.0	532.2	526.3	522.0	515.2
25°	533.9	533.1	530.5	529.7	526.3	524.6	521.2	513.5	507.6	500.8	494.0
27.5°	513.5	510.1	508.4	505.9	502.5	501.6	497.4	490.6	481.2	477.0	468.5
30°	482.1	480.4	478.7	476.1	472.7	471.0	468.5	460.8	453.2	445.5	437.9
32.5°	446.4	443.0	440.4	441.3	437.0	435.3	431.1	424.3	417.5	412.4	403.9
35°	402.2	401.3	400.5	398.8	395.4	394.5	391.1	386.0	378.3	372.4	367.3
37.5°	360.5	357.9	356.2	356.2	352.8	352.8	350.3	344.3	340.1	335.8	329.0
40°	321.4	317.1	317.1	317.1	313.7	314.6	312.9	306.9	302.7	297.6	293.3
42.5°	284.8	283.1	282.3	280.6	278.9	278.9	277.2	273.8	269.5	266.1	261.9
45°	254.2	253.4	252.5	251.7	250.0	249.1	248.3	243.2	240.6	237.2	233.0
47.5°	229.6	227.9	227.0	226.2	224.5	223.6	221.9	218.5	216.0	212.6	209.2
50°	206.6	205.8	204.9	204.9	203.2	202.4	200.7	198.1	193.8	192.1	187.9
52.5°	188.7	187.0	185.3	185.3	183.6	183.6	181.1	178.5	174.3	172.6	169.2
55°	170.0	169.2	168.3	168.3	166.6	165.8	164.9	161.5	158.1	155.6	152.2
57.5°	153.9	153.0	152.2	152.2	150.5	149.6	148.8	146.2	142.8	141.1	136.9
60°	138.6	138.6	137.7	136.9	136.0	135.2	134.3	131.8	129.2	126.7	123.3
62.5°	125.0	124.1	123.3	122.4	122.4	121.6	120.7	117.3	115.6	113.1	109.7
65°	112.2	110.5	110.5	109.7	109.7	108.8	108.0	104.6	102.9	100.3	96.9
67.5°	98.6	97.8	96.9	96.9	96.1	96.1	95.2	92.7	90.1	88.4	85.0
70°	85.9	85.9	85.0	85.0	84.2	83.3	83.3	81.6	79.1	76.5	73.1
72.5°	74.8	74.0	73.1	73.1	72.3	72.3	71.4	69.7	68.0	66.3	62.1
75°	62.9	62.1	62.1	62.1	61.2	61.2	60.4	58.7	57.0	55.3	52.7
77.5°	51.9	51.9	51.0	51.0	50.2	50.2	50.2	48.5	46.8	45.1	41.7
80°	40.8	40.8	40.8	40.0	39.1	39.1	39.1	37.4	35.7	34.0	31.5
82.5°	29.8	28.9	28.9	28.1	27.2	27.2	27.2	25.5	24.7	22.1	20.4
85°	17.9	17.0	17.0	16.2	15.3	15.3	15.3	14.5	12.8	11.9	10.2
87.5°	6.8	6.8	6.8	6.8	6.8	6.0	6.0	5.1	5.1	4.3	4.3
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°	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8
2.5°	582.4	581.5	581.5	580.7	581.5	579.8	579.8	579.8	579.8	578.1	578.1
5°	580.7	580.7	579.8	579.0	579.8	578.1	579.0	578.1	578.1	575.6	575.6
7.5°	577.3	576.4	574.7	573.9	574.7	573.9	573.9	573.9	575.6	573.9	573.9
10°	571.3	570.5	568.8	567.9	567.9	567.1	568.8	570.5	573.9	575.6	579.0
12.5°	565.4	563.7	562.8	562.8	563.7	563.7	567.1	571.3	579.8	582.4	585.8
15°	557.7	556.9	556.9	559.4	562.8	565.4	572.2	574.7	575.6	572.2	570.5
17.5°	547.5	547.5	548.4	550.9	553.5	553.5	554.3	552.6	550.9	546.7	541.6
20°	530.5	529.7	528.0	528.0	528.0	524.6	526.3	520.3	516.1	511.0	503.3
22.5°	509.3	505.0	499.1	494.8	492.3	490.6	486.3	479.5	474.4	471.0	467.6
25°	486.3	479.5	471.0	464.2	460.0	459.1	453.2	447.2	443.8	439.6	437.9
27.5°	460.0	452.3	442.1	435.3	431.9	429.4	424.3	418.3	414.1	410.7	408.1
30°	429.4	421.7	413.2	404.7	401.3	397.1	391.9	387.7	383.4	380.9	379.2
32.5°	395.4	387.7	379.2	373.2	369.0	365.6	361.3	357.1	353.7	352.0	350.3
35°	360.5	352.8	346.0	340.1	336.7	334.1	330.7	325.6	323.1	322.2	320.5
37.5°	323.1	318.0	312.0	306.9	304.4	301.0	299.3	295.0	295.0	291.6	291.6
40°	288.2	284.8	278.9	274.6	272.9	270.4	267.8	266.1	265.3	264.4	263.6
42.5°	257.6	252.5	249.1	245.7	243.2	241.5	241.5	238.9	238.1	235.5	234.7
45°	229.6	227.0	221.1	218.5	217.7	215.1	214.3	212.6	210.0	208.3	207.5
47.5°	204.9	202.4	199.0	195.5	193.8	192.1	190.4	187.9	186.2	183.6	182.8
50°	184.5	180.2	176.8	174.3	171.7	170.9	169.2	165.8	164.1	161.5	161.5
52.5°	165.8	162.4	158.1	155.6	153.0	151.3	148.8	146.2	143.7	142.8	140.3
55°	149.6	145.4	141.1	137.7	135.2	132.6	131.8	128.4	125.0	123.3	121.6
57.5°	134.3	130.1	125.0	120.7	119.0	117.3	114.8	111.4	108.8	106.3	104.6
60°	119.0	115.6	110.5	106.3	104.6	102.0	99.5	96.1	93.5	91.0	89.3
62.5°	106.3	101.2	96.9	92.7	90.1	88.4	85.0	82.5	79.1	76.5	74.0
65°	93.5	88.4	84.2	79.9	78.2	75.7	73.1	69.7	66.3	63.8	60.4
67.5°	80.8	76.5	72.3	68.0	66.3	64.6	61.2	57.8	54.4	51.9	48.5
70°	69.7	65.5	61.2	57.8	56.1	54.4	51.0	47.6	45.1	41.7	39.1
72.5°	59.5	56.1	51.9	48.5	46.8	45.1	41.7	39.1	35.7	34.0	31.5
75°	49.3	45.9	42.5	39.1	37.4	35.7	33.2	30.6	28.1	25.5	23.8
77.5°	39.1	35.7	32.3	29.8	28.1	27.2	24.7	22.1	19.6	17.9	15.3
80°	28.9	25.5	23.0	20.4	18.7	17.9	15.3	13.6	11.9	9.4	8.5
82.5°	17.9	15.3	13.6	11.9	11.1	10.2	8.5	6.8	6.0	5.1	4.3
85°	9.4	8.5	6.8	6.0	5.1	5.1	4.3	3.4	2.6	2.6	1.7
87.5°	3.4	2.6	2.6	1.7	1.7	1.7	1.7	0.9	0.9	0.9	0.9
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°	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8
2.5°	576.4	577.3	578.1	579.0	578.1	578.1	579.8	576.4	579.0	579.0	575.6
5°	574.7	576.4	575.6	577.3	575.6	575.6	576.4	574.7	576.4	576.4	573.9
7.5°	573.0	574.7	574.7	575.6	574.7	574.7	575.6	573.0	574.7	574.7	572.2
10°	580.7	582.4	581.5	580.7	578.1	576.4	577.3	573.0	574.7	574.7	572.2
12.5°	583.2	582.4	579.0	577.3	575.6	573.9	574.7	571.3	573.0	573.0	571.3
15°	566.2	564.5	562.0	562.8	561.1	560.3	562.0	560.3	563.7	565.4	563.7
17.5°	537.3	536.5	534.8	534.8	534.8	535.6	538.2	538.2	543.3	546.7	548.4
20°	499.9	499.1	499.9	501.6	502.5	505.9	511.8	515.2	522.0	528.0	532.2
22.5°	465.9	467.6	470.2	473.6	474.4	478.7	486.3	489.7	498.2	505.0	509.3
25°	437.0	439.6	441.3	443.8	444.7	449.8	456.6	460.8	470.2	475.3	480.4
27.5°	408.1	411.5	412.4	415.8	415.8	420.9	426.8	431.1	437.0	442.1	446.4
30°	380.0	380.9	383.4	384.3	386.0	391.1	394.5	397.1	403.9	406.4	409.0
32.5°	349.4	352.8	354.5	355.4	354.5	358.8	362.2	363.9	366.4	369.8	371.5
35°	320.5	322.2	323.1	324.8	325.6	326.5	328.2	329.0	332.4	333.3	334.1
37.5°	291.6	294.2	293.3	294.2	294.2	295.0	296.7	295.9	298.4	299.3	298.4
40°	262.7	262.7	264.4	263.6	264.4	263.6	265.3	265.3	265.3	266.1	265.3
42.5°	233.8	234.7	233.8	235.5	233.8	234.7	234.7	233.8	234.7	233.8	233.8
45°	207.5	207.5	207.5	207.5	205.8	205.8	207.5	206.6	205.8	204.9	204.1
47.5°	181.9	182.8	181.1	181.9	181.1	180.2	179.4	179.4	178.5	176.8	176.0
50°	160.7	159.0	158.1	159.0	158.1	157.3	156.4	154.7	153.9	152.2	151.3
52.5°	139.4	137.7	136.0	136.0	135.2	133.5	132.6	130.9	130.1	128.4	128.4
55°	120.7	119.0	117.3	116.5	114.8	113.1	112.2	110.5	109.7	108.0	106.3
57.5°	102.9	100.3	98.6	97.8	96.9	94.4	93.5	91.8	90.1	88.4	87.6
60°	86.7	84.2	81.6	80.8	79.9	77.4	76.5	74.0	73.1	71.4	70.6
62.5°	71.4	69.7	66.3	65.5	63.8	62.1	59.5	58.7	57.8	58.7	58.7
65°	57.8	55.3	52.7	51.9	50.2	48.5	47.6	46.8	47.6	47.6	48.5
67.5°	45.9	43.4	40.8	40.8	40.0	38.3	38.3	38.3	39.1	39.1	40.0
70°	36.6	34.9	33.2	32.3	32.3	31.5	32.3	32.3	33.2	33.2	33.2
72.5°	28.9	28.1	27.2	26.4	26.4	26.4	26.4	26.4	26.4	26.4	27.2
75°	22.1	21.3	20.4	20.4	19.6	19.6	19.6	19.6	19.6	19.6	18.7
77.5°	14.5	13.6	12.8	12.8	11.9	11.1	11.1	10.2	10.2	10.2	10.2
80°	7.7	6.8	6.0	5.1	5.1	4.3	4.3	4.3	4.3	3.4	3.4
82.5°	3.4	2.6	2.6	2.6	2.6	1.7	1.7	1.7	1.7	1.7	1.7
85°	1.7	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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°	579.8	579.8	579.8	579.8	579.8	579.8	579.8	579.8
2.5°	577.3	575.6	577.3	578.1	576.4	575.6	577.3	573.9
5°	576.4	573.9	574.7	575.6	573.9	573.0	574.7	572.2
7.5°	574.7	573.9	574.7	575.6	573.0	573.0	574.7	572.2
10°	574.7	573.0	573.9	575.6	573.9	573.9	575.6	572.2
12.5°	573.9	571.3	573.9	574.7	573.0	573.0	574.7	571.3
15°	567.9	567.9	568.8	570.5	569.6	570.5	573.0	570.5
17.5°	555.2	556.9	560.3	562.8	564.5	566.2	568.8	567.1
20°	539.9	542.4	546.7	549.2	552.6	553.5	557.7	554.3
22.5°	516.1	521.2	524.6	527.1	529.7	532.2	535.6	534.8
25°	487.2	490.6	493.1	495.7	499.1	500.8	502.5	501.6
27.5°	452.3	454.0	457.4	459.1	460.8	462.5	465.9	461.7
30°	414.1	414.9	416.6	419.2	419.2	420.9	422.6	421.7
32.5°	374.9	374.9	376.6	378.3	377.5	378.3	381.7	377.5
35°	336.7	335.8	338.4	339.2	339.2	338.4	340.9	340.1
37.5°	299.3	300.1	301.0	301.8	300.1	301.8	301.8	300.1
40°	265.3	264.4	266.1	267.0	266.1	267.0	267.0	263.6
42.5°	234.7	233.0	233.8	234.7	233.8	234.7	233.8	232.1
45°	204.9	204.1	204.1	204.9	203.2	203.2	203.2	203.2
47.5°	176.8	176.0	176.8	176.8	175.1	175.1	176.0	175.1
50°	151.3	150.5	150.5	150.5	149.6	149.6	150.5	150.5
52.5°	128.4	126.7	126.7	126.7	126.7	126.7	127.5	125.8
55°	105.4	105.4	105.4	105.4	106.3	106.3	106.3	106.3
57.5°	86.7	87.6	87.6	88.4	87.6	88.4	88.4	87.6
60°	72.3	71.4	72.3	72.3	73.1	73.1	73.1	73.1
62.5°	59.5	59.5	59.5	60.4	60.4	60.4	61.2	60.4
65°	49.3	49.3	50.2	50.2	50.2	51.0	51.0	51.0
67.5°	40.8	40.8	40.8	40.8	41.7	41.7	42.5	41.7
70°	34.0	34.0	34.0	34.0	34.0	34.9	34.9	34.9
72.5°	27.2	27.2	27.2	27.2	28.1	28.1	28.1	28.1
75°	18.7	18.7	18.7	19.6	18.7	18.7	18.7	18.7
77.5°	9.4	9.4	9.4	9.4	9.4	8.5	8.5	8.5
80°	3.4	3.4	3.4	3.4	3.4	3.4	2.6	3.4
82.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.9
85°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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)