

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: P251675

Luminaire Tested: **LD4B15D010 EU4B10208035 4LBLWW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251675  
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 EU4B10208035 4LBLWW1LI  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1240.0 lumens  
Efficiency: N/A  
Efficacy: 86.2 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

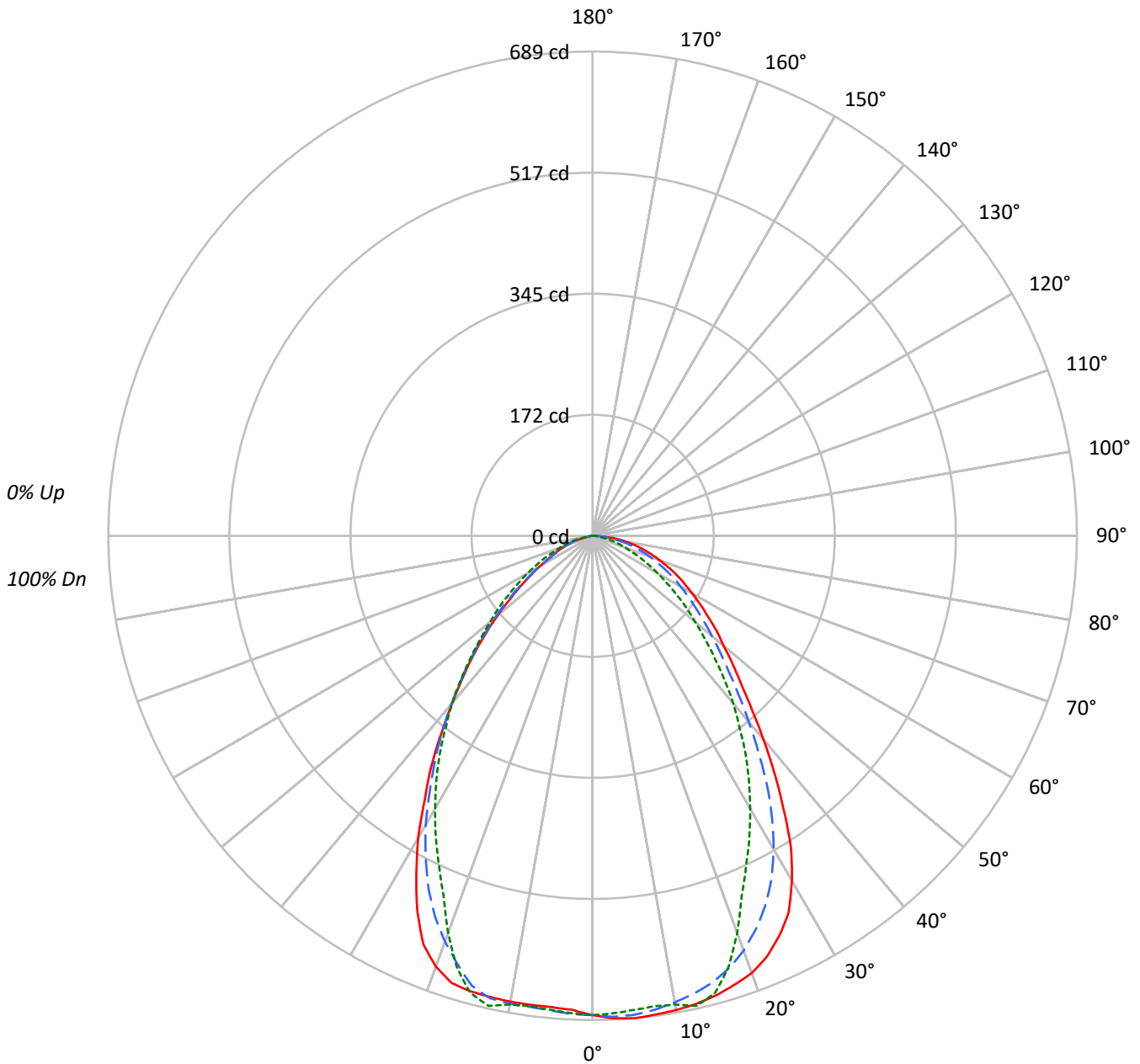
Input Watts (W): 14.39  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					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	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°	66486	66486	66486
5°	67425	66251	65859
10°	67808	67017	66621
15°	68327	67923	67721
20°	68679	62352	67641
25°	67552	55605	63455
30°	63819	50427	55829
35°	56287	45103	47602
40°	48103	39579	39452
45°	41224	33781	32954
50°	36858	28807	26836
55°	34000	24637	21239
60°	31771	20856	16763
65°	30440	17295	13836
70°	28780	13962	11683
75°	27865	11296	8284
80°	26939	6174	2245
85°	23482	3355	1118



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.8	5.2
10°-20°	186.5	15.0
20°-30°	258.6	20.9
30°-40°	255.3	20.6
40°-50°	200.2	16.1
50°-60°	138.7	11.2
60°-70°	85.0	6.9
70°-80°	42.5	3.4
80°-90°	8.5	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°	509.9	41.1
0°-40°	765.1	61.7
0°-60°	1104.0	89.0
0°-90°	1240.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1240.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	682	682	682	682	682	
5°	689	684	677	678	673	66
15°	677	658	673	663	671	191
25°	628	581	517	553	590	287
35°	473	432	379	391	400	295
45°	299	274	245	242	239	234
55°	200	179	145	129	125	180
65°	132	114	75	56	60	130
75°	74	62	30	23	22	78
85°	21	12	3	1	1	24
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°	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2
2.5°	687.2	685.2	684.2	687.2	686.2	688.2	687.2	686.2	684.2	685.2	685.2
5°	689.2	686.2	685.2	687.2	687.2	689.2	688.2	686.2	684.2	685.2	684.2
7.5°	687.2	685.2	685.2	686.2	685.2	687.2	685.2	683.2	681.2	682.2	680.2
10°	685.2	682.2	682.2	682.2	682.2	684.2	682.2	679.2	676.2	676.2	674.2
12.5°	682.2	679.2	679.2	680.2	678.2	680.2	678.2	673.2	670.2	669.2	667.2
15°	677.2	674.2	674.2	674.2	672.2	673.2	670.2	665.2	661.2	661.2	658.2
17.5°	670.2	667.2	666.2	666.2	663.2	664.2	661.2	656.2	650.2	648.2	645.2
20°	662.2	658.2	656.2	656.2	653.2	654.2	650.2	644.2	636.2	633.2	628.2
22.5°	648.2	646.2	643.2	642.2	639.2	638.2	634.2	626.2	619.2	614.2	606.2
25°	628.2	627.2	624.2	623.2	619.2	617.2	613.2	604.2	597.2	589.1	581.1
27.5°	604.2	600.2	598.2	595.2	591.1	590.1	585.1	577.1	566.1	561.1	551.1
30°	567.1	565.1	563.1	560.1	556.1	554.1	551.1	542.1	533.1	524.1	515.1
32.5°	525.1	521.1	518.1	519.1	514.1	512.1	507.1	499.1	491.1	485.1	475.1
35°	473.1	472.1	471.1	469.1	465.1	464.1	460.1	454.1	445.1	438.1	432.1
37.5°	424.1	421.1	419.1	419.1	415.1	415.1	412.1	405.1	400.1	395.1	387.1
40°	378.1	373.1	373.1	373.1	369.1	370.1	368.1	361.1	356.1	350.1	345.1
42.5°	335.1	333.1	332.1	330.1	328.1	328.1	326.1	322.1	317.1	313.1	308.1
45°	299.1	298.1	297.1	296.1	294.1	293.1	292.1	286.1	283.1	279.1	274.1
47.5°	270.1	268.1	267.1	266.1	264.1	263.1	261.1	257.1	254.1	250.1	246.1
50°	243.1	242.1	241.1	241.1	239.1	238.1	236.1	233.1	228.1	226.1	221.1
52.5°	222.1	220.1	218.1	218.1	216.1	216.1	213.1	210.1	205.1	203.1	199.1
55°	200.1	199.1	198.1	198.1	196.0	195.0	194.0	190.0	186.0	183.0	179.0
57.5°	181.0	180.0	179.0	179.0	177.0	176.0	175.0	172.0	168.0	166.0	161.0
60°	163.0	163.0	162.0	161.0	160.0	159.0	158.0	155.0	152.0	149.0	145.0
62.5°	147.0	146.0	145.0	144.0	144.0	143.0	142.0	138.0	136.0	133.0	129.0
65°	132.0	130.0	130.0	129.0	129.0	128.0	127.0	123.0	121.0	118.0	114.0
67.5°	116.0	115.0	114.0	114.0	113.0	113.0	112.0	109.0	106.0	104.0	100.0
70°	101.0	101.0	100.0	100.0	99.0	98.0	98.0	96.0	93.0	90.0	86.0
72.5°	88.0	87.0	86.0	86.0	85.0	85.0	84.0	82.0	80.0	78.0	73.0
75°	74.0	73.0	73.0	73.0	72.0	72.0	71.0	69.0	67.0	65.0	62.0
77.5°	61.0	61.0	60.0	60.0	59.0	59.0	59.0	57.0	55.0	53.0	49.0
80°	48.0	48.0	48.0	47.0	46.0	46.0	46.0	44.0	42.0	40.0	37.0
82.5°	35.0	34.0	34.0	33.0	32.0	32.0	32.0	30.0	29.0	26.0	24.0
85°	21.0	20.0	20.0	19.0	18.0	18.0	18.0	17.0	15.0	14.0	12.0
87.5°	8.0	8.0	8.0	8.0	8.0	7.0	7.0	6.0	6.0	5.0	5.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2
2.5°	685.2	684.2	684.2	683.2	684.2	682.2	682.2	682.2	682.2	680.2	680.2
5°	683.2	683.2	682.2	681.2	682.2	680.2	681.2	680.2	680.2	677.2	677.2
7.5°	679.2	678.2	676.2	675.2	676.2	675.2	675.2	675.2	677.2	675.2	675.2
10°	672.2	671.2	669.2	668.2	668.2	667.2	669.2	671.2	675.2	677.2	681.2
12.5°	665.2	663.2	662.2	662.2	663.2	663.2	667.2	672.2	682.2	685.2	689.2
15°	656.2	655.2	655.2	658.2	662.2	665.2	673.2	676.2	677.2	673.2	671.2
17.5°	644.2	644.2	645.2	648.2	651.2	651.2	652.2	650.2	648.2	643.2	637.2
20°	624.2	623.2	621.2	621.2	621.2	617.2	619.2	612.2	607.2	601.2	592.1
22.5°	599.2	594.2	587.1	582.1	579.1	577.1	572.1	564.1	558.1	554.1	550.1
25°	572.1	564.1	554.1	546.1	541.1	540.1	533.1	526.1	522.1	517.1	515.1
27.5°	541.1	532.1	520.1	512.1	508.1	505.1	499.1	492.1	487.1	483.1	480.1
30°	505.1	496.1	486.1	476.1	472.1	467.1	461.1	456.1	451.1	448.1	446.1
32.5°	465.1	456.1	446.1	439.1	434.1	430.1	425.1	420.1	416.1	414.1	412.1
35°	424.1	415.1	407.1	400.1	396.1	393.1	389.1	383.1	380.1	379.1	377.1
37.5°	380.1	374.1	367.1	361.1	358.1	354.1	352.1	347.1	347.1	343.1	343.1
40°	339.1	335.1	328.1	323.1	321.1	318.1	315.1	313.1	312.1	311.1	310.1
42.5°	303.1	297.1	293.1	289.1	286.1	284.1	284.1	281.1	280.1	277.1	276.1
45°	270.1	267.1	260.1	257.1	256.1	253.1	252.1	250.1	247.1	245.1	244.1
47.5°	241.1	238.1	234.1	230.1	228.1	226.1	224.1	221.1	219.1	216.1	215.1
50°	217.1	212.1	208.1	205.1	202.1	201.1	199.1	195.0	193.0	190.0	190.0
52.5°	195.0	191.0	186.0	183.0	180.0	178.0	175.0	172.0	169.0	168.0	165.0
55°	176.0	171.0	166.0	162.0	159.0	156.0	155.0	151.0	147.0	145.0	143.0
57.5°	158.0	153.0	147.0	142.0	140.0	138.0	135.0	131.0	128.0	125.0	123.0
60°	140.0	136.0	130.0	125.0	123.0	120.0	117.0	113.0	110.0	107.0	105.0
62.5°	125.0	119.0	114.0	109.0	106.0	104.0	100.0	97.0	93.0	90.0	87.0
65°	110.0	104.0	99.0	94.0	92.0	89.0	86.0	82.0	78.0	75.0	71.0
67.5°	95.0	90.0	85.0	80.0	78.0	76.0	72.0	68.0	64.0	61.0	57.0
70°	82.0	77.0	72.0	68.0	66.0	64.0	60.0	56.0	53.0	49.0	46.0
72.5°	70.0	66.0	61.0	57.0	55.0	53.0	49.0	46.0	42.0	40.0	37.0
75°	58.0	54.0	50.0	46.0	44.0	42.0	39.0	36.0	33.0	30.0	28.0
77.5°	46.0	42.0	38.0	35.0	33.0	32.0	29.0	26.0	23.0	21.0	18.0
80°	34.0	30.0	27.0	24.0	22.0	21.0	18.0	16.0	14.0	11.0	10.0
82.5°	21.0	18.0	16.0	14.0	13.0	12.0	10.0	8.0	7.0	6.0	5.0
85°	11.0	10.0	8.0	7.0	6.0	6.0	5.0	4.0	3.0	3.0	2.0
87.5°	4.0	3.0	3.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2
2.5°	678.2	679.2	680.2	681.2	680.2	680.2	682.2	678.2	681.2	681.2	677.2
5°	676.2	678.2	677.2	679.2	677.2	677.2	678.2	676.2	678.2	678.2	675.2
7.5°	674.2	676.2	676.2	677.2	676.2	676.2	677.2	674.2	676.2	676.2	673.2
10°	683.2	685.2	684.2	683.2	680.2	678.2	679.2	674.2	676.2	676.2	673.2
12.5°	686.2	685.2	681.2	679.2	677.2	675.2	676.2	672.2	674.2	674.2	672.2
15°	666.2	664.2	661.2	662.2	660.2	659.2	661.2	659.2	663.2	665.2	663.2
17.5°	632.2	631.2	629.2	629.2	629.2	630.2	633.2	633.2	639.2	643.2	645.2
20°	588.1	587.1	588.1	590.1	591.1	595.2	602.2	606.2	614.2	621.2	626.2
22.5°	548.1	550.1	553.1	557.1	558.1	563.1	572.1	576.1	586.1	594.2	599.2
25°	514.1	517.1	519.1	522.1	523.1	529.1	537.1	542.1	553.1	559.1	565.1
27.5°	480.1	484.1	485.1	489.1	489.1	495.1	502.1	507.1	514.1	520.1	525.1
30°	447.1	448.1	451.1	452.1	454.1	460.1	464.1	467.1	475.1	478.1	481.1
32.5°	411.1	415.1	417.1	418.1	417.1	422.1	426.1	428.1	431.1	435.1	437.1
35°	377.1	379.1	380.1	382.1	383.1	384.1	386.1	387.1	391.1	392.1	393.1
37.5°	343.1	346.1	345.1	346.1	346.1	347.1	349.1	348.1	351.1	352.1	351.1
40°	309.1	309.1	311.1	310.1	311.1	310.1	312.1	312.1	312.1	313.1	312.1
42.5°	275.1	276.1	275.1	277.1	275.1	276.1	276.1	275.1	276.1	275.1	275.1
45°	244.1	244.1	244.1	244.1	242.1	242.1	244.1	243.1	242.1	241.1	240.1
47.5°	214.1	215.1	213.1	214.1	213.1	212.1	211.1	211.1	210.1	208.1	207.1
50°	189.0	187.0	186.0	187.0	186.0	185.0	184.0	182.0	181.0	179.0	178.0
52.5°	164.0	162.0	160.0	160.0	159.0	157.0	156.0	154.0	153.0	151.0	151.0
55°	142.0	140.0	138.0	137.0	135.0	133.0	132.0	130.0	129.0	127.0	125.0
57.5°	121.0	118.0	116.0	115.0	114.0	111.0	110.0	108.0	106.0	104.0	103.0
60°	102.0	99.0	96.0	95.0	94.0	91.0	90.0	87.0	86.0	84.0	83.0
62.5°	84.0	82.0	78.0	77.0	75.0	73.0	70.0	69.0	68.0	69.0	69.0
65°	68.0	65.0	62.0	61.0	59.0	57.0	56.0	55.0	56.0	56.0	57.0
67.5°	54.0	51.0	48.0	48.0	47.0	45.0	45.0	45.0	46.0	46.0	47.0
70°	43.0	41.0	39.0	38.0	38.0	37.0	38.0	38.0	39.0	39.0	39.0
72.5°	34.0	33.0	32.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	32.0
75°	26.0	25.0	24.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0	22.0
77.5°	17.0	16.0	15.0	15.0	14.0	13.0	13.0	12.0	12.0	12.0	12.0
80°	9.0	8.0	7.0	6.0	6.0	5.0	5.0	5.0	5.0	4.0	4.0
82.5°	4.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	682.2	682.2	682.2	682.2	682.2	682.2	682.2	682.2
2.5°	679.2	677.2	679.2	680.2	678.2	677.2	679.2	675.2
5°	678.2	675.2	676.2	677.2	675.2	674.2	676.2	673.2
7.5°	676.2	675.2	676.2	677.2	674.2	674.2	676.2	673.2
10°	676.2	674.2	675.2	677.2	675.2	675.2	677.2	673.2
12.5°	675.2	672.2	675.2	676.2	674.2	674.2	676.2	672.2
15°	668.2	668.2	669.2	671.2	670.2	671.2	674.2	671.2
17.5°	653.2	655.2	659.2	662.2	664.2	666.2	669.2	667.2
20°	635.2	638.2	643.2	646.2	650.2	651.2	656.2	652.2
22.5°	607.2	613.2	617.2	620.2	623.2	626.2	630.2	629.2
25°	573.1	577.1	580.1	583.1	587.1	589.1	591.1	590.1
27.5°	532.1	534.1	538.1	540.1	542.1	544.1	548.1	543.1
30°	487.1	488.1	490.1	493.1	493.1	495.1	497.1	496.1
32.5°	441.1	441.1	443.1	445.1	444.1	445.1	449.1	444.1
35°	396.1	395.1	398.1	399.1	399.1	398.1	401.1	400.1
37.5°	352.1	353.1	354.1	355.1	353.1	355.1	355.1	353.1
40°	312.1	311.1	313.1	314.1	313.1	314.1	314.1	310.1
42.5°	276.1	274.1	275.1	276.1	275.1	276.1	275.1	273.1
45°	241.1	240.1	240.1	241.1	239.1	239.1	239.1	239.1
47.5°	208.1	207.1	208.1	208.1	206.1	206.1	207.1	206.1
50°	178.0	177.0	177.0	177.0	176.0	176.0	177.0	177.0
52.5°	151.0	149.0	149.0	149.0	149.0	149.0	150.0	148.0
55°	124.0	124.0	124.0	124.0	125.0	125.0	125.0	125.0
57.5°	102.0	103.0	103.0	104.0	103.0	104.0	104.0	103.0
60°	85.0	84.0	85.0	85.0	86.0	86.0	86.0	86.0
62.5°	70.0	70.0	70.0	71.0	71.0	71.0	72.0	71.0
65°	58.0	58.0	59.0	59.0	59.0	60.0	60.0	60.0
67.5°	48.0	48.0	48.0	48.0	49.0	49.0	50.0	49.0
70°	40.0	40.0	40.0	40.0	40.0	41.0	41.0	41.0
72.5°	32.0	32.0	32.0	32.0	33.0	33.0	33.0	33.0
75°	22.0	22.0	22.0	23.0	22.0	22.0	22.0	22.0
77.5°	11.0	11.0	11.0	11.0	11.0	10.0	10.0	10.0
80°	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
82.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0
85°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)