

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: P251684

Luminaire Tested: **LD4B15D010 EU4B10209727 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251684
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 EU4B10209727 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 864.0 lumens
Efficiency: N/A
Efficacy: 60.0 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

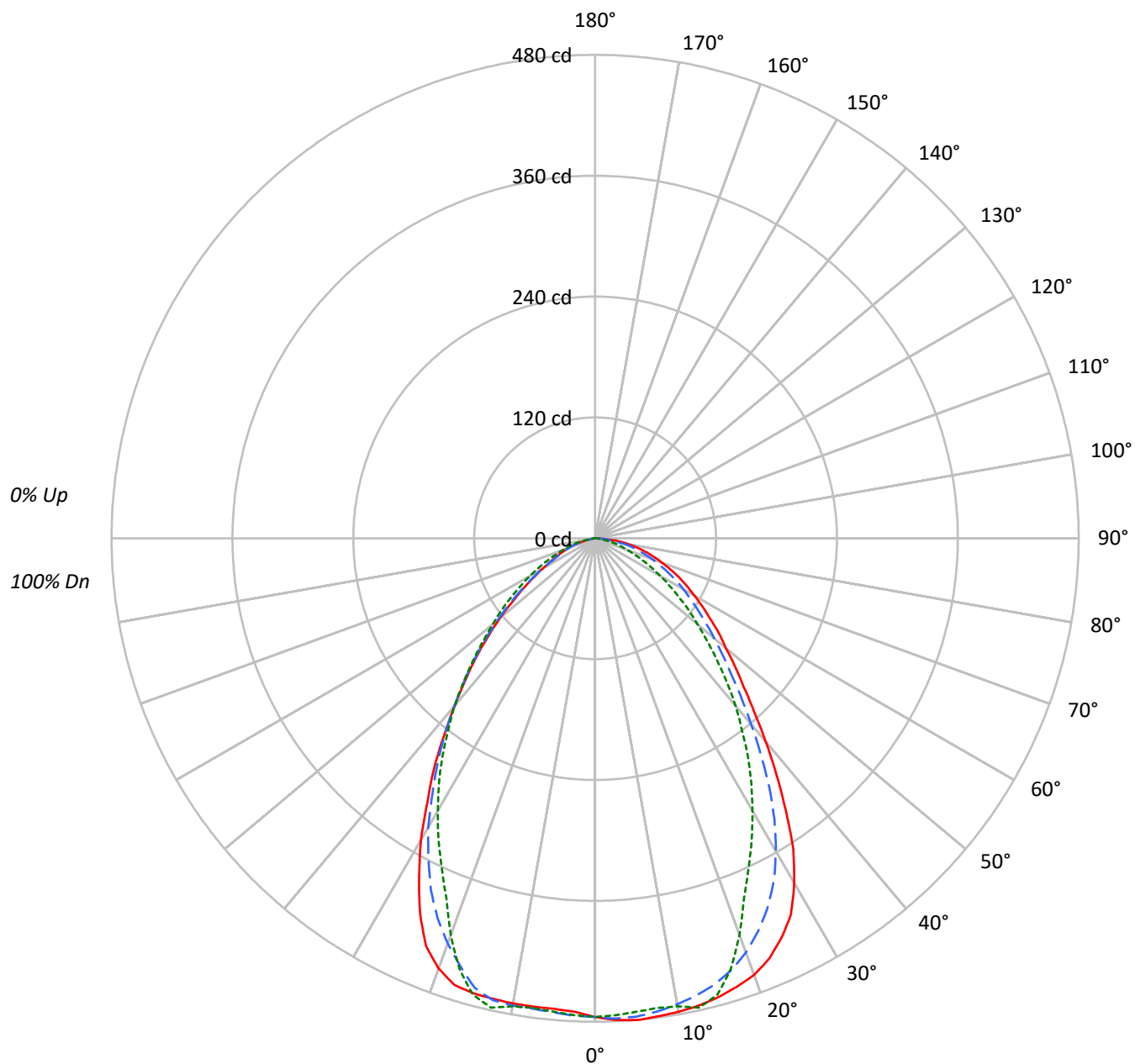
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251684

CATALOG NUMBER: LD4B15D010 EU4B10209727 4LBLWW1LI

Luminous Intensity Polar Plot





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CATALOG NUMBER: LD4B15D010 EU4B10209727 4LBLWW1LI

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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	111	107	103	100	108	105	101	99		101	98	96		97	95	93		93	91	90
2	103	96	90	85	100	94	89	84		90	86	82		87	84	80		84	81	79
3	95	86	79	74	93	84	78	73		82	76	72		79	74	70		77	73	69
4	88	78	70	64	86	76	69	64		74	68	63		72	67	62		70	65	62
5	82	71	63	57	80	70	62	57		68	61	56		66	60	56		64	59	55
6	76	65	57	51	75	64	56	51		62	55	50		60	54	50		59	54	50
7	71	59	51	46	70	59	51	46		57	50	46		56	50	45		54	49	45
8	67	55	47	42	65	54	47	42		53	46	41		52	46	41		51	45	41
9	63	51	43	38	62	50	43	38		49	43	38		48	42	38		47	42	38
10	59	47	40	35	58	47	40	35		46	39	35		45	39	35		44	39	35

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	46322	46322	46322
5°	46978	46156	45882
10°	47244	46690	46413
15°	47603	47320	47189
20°	47853	43445	47127
25°	47067	38744	44218
30°	44474	35133	38903
35°	39226	31421	33170
40°	33510	27582	27493
45°	28723	23541	22962
50°	25684	20074	18710
55°	23686	17178	14799
60°	22142	14541	11675
65°	21216	12061	9639
70°	20060	9745	8150
75°	19430	7870	5761
80°	18801	4322	1571
85°	16326	2348	783



TEST NUMBER: P251684

CATALOG NUMBER: LD4B15D010 EU4B10209727 4LBLWW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.2	5.2
10°-20°	129.9	15.0
20°-30°	180.2	20.9
30°-40°	177.9	20.6
40°-50°	139.5	16.1
50°-60°	96.6	11.2
60°-70°	59.2	6.9
70°-80°	29.6	3.4
80°-90°	5.9	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°	355.3	41.1
0°-40°	533.1	61.7
0°-60°	769.3	89.0
0°-90°	864.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	864.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	475	475	475	475	475	
5°	480	477	472	472	469	46
15°	472	459	469	462	468	133
25°	438	405	360	385	411	200
35°	330	301	264	272	279	206
45°	208	191	171	169	167	163
55°	139	125	101	90	87	126
65°	92	80	52	39	42	91
75°	52	43	21	16	15	55
85°	15	8	2	1	1	17
90°	0	0	0	0	0	



TEST NUMBER: P251684

CATALOG NUMBER: LD4B15D010 EU4B10209727 4LBLWW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3
2.5°	478.8	477.4	476.7	478.8	478.1	479.5	478.8	478.1	476.7	477.4	477.4
5°	480.2	478.1	477.4	478.8	478.8	480.2	479.5	478.1	476.7	477.4	476.7
7.5°	478.8	477.4	477.4	478.1	477.4	478.8	477.4	476.0	474.6	475.3	473.9
10°	477.4	475.3	475.3	475.3	475.3	476.7	475.3	473.2	471.1	471.1	469.7
12.5°	475.3	473.2	473.2	473.9	472.5	473.9	472.5	469.0	467.0	466.3	464.9
15°	471.8	469.7	469.7	469.7	468.4	469.0	467.0	463.5	460.7	460.7	458.6
17.5°	467.0	464.9	464.2	464.2	462.1	462.8	460.7	457.2	453.0	451.6	449.5
20°	461.4	458.6	457.2	457.2	455.1	455.8	453.0	448.8	443.3	441.2	437.7
22.5°	451.6	450.2	448.1	447.4	445.4	444.7	441.9	436.3	431.4	427.9	422.4
25°	437.7	437.0	434.9	434.2	431.4	430.0	427.2	421.0	416.1	410.5	404.9
27.5°	421.0	418.2	416.8	414.7	411.9	411.2	407.7	402.1	394.5	391.0	384.0
30°	395.2	393.8	392.4	390.3	387.5	386.1	384.0	377.7	371.5	365.2	358.9
32.5°	365.9	363.1	361.0	361.7	358.2	356.8	353.4	347.8	342.2	338.0	331.1
35°	329.7	329.0	328.3	326.9	324.1	323.4	320.6	316.4	310.1	305.3	301.1
37.5°	295.5	293.4	292.0	292.0	289.2	289.2	287.1	282.3	278.8	275.3	269.7
40°	263.4	260.0	260.0	260.0	257.2	257.9	256.5	251.6	248.1	243.9	240.4
42.5°	233.5	232.1	231.4	230.0	228.6	228.6	227.2	224.4	220.9	218.1	214.7
45°	208.4	207.7	207.0	206.3	204.9	204.2	203.5	199.3	197.2	194.4	191.0
47.5°	188.2	186.8	186.1	185.4	184.0	183.3	181.9	179.1	177.0	174.2	171.4
50°	169.4	168.7	168.0	168.0	166.6	165.9	164.5	162.4	158.9	157.5	154.0
52.5°	154.7	153.3	151.9	151.9	150.5	150.5	148.5	146.4	142.9	141.5	138.7
55°	139.4	138.7	138.0	138.0	136.6	135.9	135.2	132.4	129.6	127.5	124.8
57.5°	126.1	125.5	124.8	124.8	123.4	122.7	122.0	119.9	117.1	115.7	112.2
60°	113.6	113.6	112.9	112.2	111.5	110.8	110.1	108.0	105.9	103.8	101.1
62.5°	102.5	101.8	101.1	100.4	100.4	99.7	99.0	96.2	94.8	92.7	89.9
65°	92.0	90.6	90.6	89.9	89.9	89.2	88.5	85.7	84.3	82.2	79.5
67.5°	80.8	80.1	79.5	79.5	78.8	78.8	78.1	76.0	73.9	72.5	69.7
70°	70.4	70.4	69.7	69.7	69.0	68.3	68.3	66.9	64.8	62.7	59.9
72.5°	61.3	60.6	59.9	59.9	59.2	59.2	58.5	57.1	55.8	54.4	50.9
75°	51.6	50.9	50.9	50.9	50.2	50.2	49.5	48.1	46.7	45.3	43.2
77.5°	42.5	42.5	41.8	41.8	41.1	41.1	41.1	39.7	38.3	36.9	34.2
80°	33.5	33.5	33.5	32.8	32.1	32.1	32.1	30.7	29.3	27.9	25.8
82.5°	24.4	23.7	23.7	23.0	22.3	22.3	22.3	20.9	20.2	18.1	16.7
85°	14.6	13.9	13.9	13.2	12.5	12.5	12.5	11.8	10.5	9.8	8.4
87.5°	5.6	5.6	5.6	5.6	5.6	4.9	4.9	4.2	4.2	3.5	3.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P251684

CATALOG NUMBER: LD4B15D010 EU4B10209727 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3
2.5°	477.4	476.7	476.7	476.0	476.7	475.3	475.3	475.3	475.3	473.9	473.9
5°	476.0	476.0	475.3	474.6	475.3	473.9	474.6	473.9	473.9	471.8	471.8
7.5°	473.2	472.5	471.1	470.4	471.1	470.4	470.4	470.4	471.8	470.4	470.4
10°	468.4	467.7	466.3	465.6	465.6	464.9	466.3	467.7	470.4	471.8	474.6
12.5°	463.5	462.1	461.4	461.4	462.1	462.1	464.9	468.4	475.3	477.4	480.2
15°	457.2	456.5	456.5	458.6	461.4	463.5	469.0	471.1	471.8	469.0	467.7
17.5°	448.8	448.8	449.5	451.6	453.7	453.7	454.4	453.0	451.6	448.1	444.0
20°	434.9	434.2	432.8	432.8	432.8	430.0	431.4	426.5	423.0	418.9	412.6
22.5°	417.5	414.0	409.1	405.6	403.5	402.1	398.7	393.1	388.9	386.1	383.3
25°	398.7	393.1	386.1	380.5	377.1	376.4	371.5	366.6	363.8	360.3	358.9
27.5°	377.1	370.8	362.4	356.8	354.1	352.0	347.8	342.9	339.4	336.6	334.5
30°	352.0	345.7	338.7	331.7	329.0	325.5	321.3	317.8	314.3	312.2	310.8
32.5°	324.1	317.8	310.8	306.0	302.5	299.7	296.2	292.7	289.9	288.5	287.1
35°	295.5	289.2	283.7	278.8	276.0	273.9	271.1	266.9	264.8	264.1	262.8
37.5°	264.8	260.7	255.8	251.6	249.5	246.7	245.3	241.8	241.8	239.1	239.1
40°	236.3	233.5	228.6	225.1	223.7	221.6	219.5	218.1	217.4	216.8	216.1
42.5°	211.2	207.0	204.2	201.4	199.3	197.9	197.9	195.8	195.1	193.1	192.4
45°	188.2	186.1	181.2	179.1	178.4	176.3	175.6	174.2	172.1	170.8	170.1
47.5°	168.0	165.9	163.1	160.3	158.9	157.5	156.1	154.0	152.6	150.5	149.8
50°	151.2	147.8	145.0	142.9	140.8	140.1	138.7	135.9	134.5	132.4	132.4
52.5°	135.9	133.1	129.6	127.5	125.5	124.1	122.0	119.9	117.8	117.1	115.0
55°	122.7	119.2	115.7	112.9	110.8	108.7	108.0	105.2	102.5	101.1	99.7
57.5°	110.1	106.6	102.5	99.0	97.6	96.2	94.1	91.3	89.2	87.1	85.7
60°	97.6	94.8	90.6	87.1	85.7	83.6	81.5	78.8	76.7	74.6	73.2
62.5°	87.1	82.9	79.5	76.0	73.9	72.5	69.7	67.6	64.8	62.7	60.6
65°	76.7	72.5	69.0	65.5	64.1	62.0	59.9	57.1	54.4	52.3	49.5
67.5°	66.2	62.7	59.2	55.8	54.4	53.0	50.2	47.4	44.6	42.5	39.7
70°	57.1	53.7	50.2	47.4	46.0	44.6	41.8	39.0	36.9	34.2	32.1
72.5°	48.8	46.0	42.5	39.7	38.3	36.9	34.2	32.1	29.3	27.9	25.8
75°	40.4	37.6	34.8	32.1	30.7	29.3	27.2	25.1	23.0	20.9	19.5
77.5°	32.1	29.3	26.5	24.4	23.0	22.3	20.2	18.1	16.0	14.6	12.5
80°	23.7	20.9	18.8	16.7	15.3	14.6	12.5	11.2	9.8	7.7	7.0
82.5°	14.6	12.5	11.2	9.8	9.1	8.4	7.0	5.6	4.9	4.2	3.5
85°	7.7	7.0	5.6	4.9	4.2	4.2	3.5	2.8	2.1	2.1	1.4
87.5°	2.8	2.1	2.1	1.4	1.4	1.4	1.4	0.7	0.7	0.7	0.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P251684

CATALOG NUMBER: LD4B15D010 EU4B10209727 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3
2.5°	472.5	473.2	473.9	474.6	473.9	473.9	475.3	472.5	474.6	474.6	471.8
5°	471.1	472.5	471.8	473.2	471.8	471.8	472.5	471.1	472.5	472.5	470.4
7.5°	469.7	471.1	471.1	471.8	471.1	471.1	471.8	469.7	471.1	471.1	469.0
10°	476.0	477.4	476.7	476.0	473.9	472.5	473.2	469.7	471.1	471.1	469.0
12.5°	478.1	477.4	474.6	473.2	471.8	470.4	471.1	468.4	469.7	469.7	468.4
15°	464.2	462.8	460.7	461.4	460.0	459.3	460.7	459.3	462.1	463.5	462.1
17.5°	440.5	439.8	438.4	438.4	438.4	439.1	441.2	441.2	445.4	448.1	449.5
20°	409.8	409.1	409.8	411.2	411.9	414.7	419.6	422.4	427.9	432.8	436.3
22.5°	381.9	383.3	385.4	388.2	388.9	392.4	398.7	401.4	408.4	414.0	417.5
25°	358.2	360.3	361.7	363.8	364.5	368.7	374.3	377.7	385.4	389.6	393.8
27.5°	334.5	337.3	338.0	340.8	340.8	345.0	349.9	353.4	358.2	362.4	365.9
30°	311.5	312.2	314.3	315.0	316.4	320.6	323.4	325.5	331.1	333.1	335.2
32.5°	286.4	289.2	290.6	291.3	290.6	294.1	296.9	298.3	300.4	303.2	304.6
35°	262.8	264.1	264.8	266.2	266.9	267.6	269.0	269.7	272.5	273.2	273.9
37.5°	239.1	241.1	240.4	241.1	241.1	241.8	243.2	242.5	244.6	245.3	244.6
40°	215.4	215.4	216.8	216.1	216.8	216.1	217.4	217.4	217.4	218.1	217.4
42.5°	191.7	192.4	191.7	193.1	191.7	192.4	192.4	191.7	192.4	191.7	191.7
45°	170.1	170.1	170.1	170.1	168.7	168.7	170.1	169.4	168.7	168.0	167.3
47.5°	149.1	149.8	148.5	149.1	148.5	147.8	147.1	147.1	146.4	145.0	144.3
50°	131.7	130.3	129.6	130.3	129.6	128.9	128.2	126.8	126.1	124.8	124.1
52.5°	114.3	112.9	111.5	111.5	110.8	109.4	108.7	107.3	106.6	105.2	105.2
55°	99.0	97.6	96.2	95.5	94.1	92.7	92.0	90.6	89.9	88.5	87.1
57.5°	84.3	82.2	80.8	80.1	79.5	77.4	76.7	75.3	73.9	72.5	71.8
60°	71.1	69.0	66.9	66.2	65.5	63.4	62.7	60.6	59.9	58.5	57.8
62.5°	58.5	57.1	54.4	53.7	52.3	50.9	48.8	48.1	47.4	48.1	48.1
65°	47.4	45.3	43.2	42.5	41.1	39.7	39.0	38.3	39.0	39.0	39.7
67.5°	37.6	35.5	33.5	33.5	32.8	31.4	31.4	31.4	32.1	32.1	32.8
70°	30.0	28.6	27.2	26.5	26.5	25.8	26.5	26.5	27.2	27.2	27.2
72.5°	23.7	23.0	22.3	21.6	21.6	21.6	21.6	21.6	21.6	21.6	22.3
75°	18.1	17.4	16.7	16.7	16.0	16.0	16.0	16.0	16.0	16.0	15.3
77.5°	11.8	11.2	10.5	10.5	9.8	9.1	9.1	8.4	8.4	8.4	8.4
80°	6.3	5.6	4.9	4.2	4.2	3.5	3.5	3.5	3.5	2.8	2.8
82.5°	2.8	2.1	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4
85°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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



TEST NUMBER: P251684

CATALOG NUMBER: LD4B15D010 EU4B10209727 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	475.3	475.3	475.3	475.3	475.3	475.3	475.3	475.3
2.5°	473.2	471.8	473.2	473.9	472.5	471.8	473.2	470.4
5°	472.5	470.4	471.1	471.8	470.4	469.7	471.1	469.0
7.5°	471.1	470.4	471.1	471.8	469.7	469.7	471.1	469.0
10°	471.1	469.7	470.4	471.8	470.4	470.4	471.8	469.0
12.5°	470.4	468.4	470.4	471.1	469.7	469.7	471.1	468.4
15°	465.6	465.6	466.3	467.7	467.0	467.7	469.7	467.7
17.5°	455.1	456.5	459.3	461.4	462.8	464.2	466.3	464.9
20°	442.6	444.7	448.1	450.2	453.0	453.7	457.2	454.4
22.5°	423.0	427.2	430.0	432.1	434.2	436.3	439.1	438.4
25°	399.4	402.1	404.2	406.3	409.1	410.5	411.9	411.2
27.5°	370.8	372.2	375.0	376.4	377.7	379.1	381.9	378.4
30°	339.4	340.1	341.5	343.6	343.6	345.0	346.4	345.7
32.5°	307.4	307.4	308.7	310.1	309.4	310.1	312.9	309.4
35°	276.0	275.3	277.4	278.1	278.1	277.4	279.5	278.8
37.5°	245.3	246.0	246.7	247.4	246.0	247.4	247.4	246.0
40°	217.4	216.8	218.1	218.8	218.1	218.8	218.8	216.1
42.5°	192.4	191.0	191.7	192.4	191.7	192.4	191.7	190.3
45°	168.0	167.3	167.3	168.0	166.6	166.6	166.6	166.6
47.5°	145.0	144.3	145.0	145.0	143.6	143.6	144.3	143.6
50°	124.1	123.4	123.4	123.4	122.7	122.7	123.4	123.4
52.5°	105.2	103.8	103.8	103.8	103.8	103.8	104.5	103.1
55°	86.4	86.4	86.4	86.4	87.1	87.1	87.1	87.1
57.5°	71.1	71.8	71.8	72.5	71.8	72.5	72.5	71.8
60°	59.2	58.5	59.2	59.2	59.9	59.9	59.9	59.9
62.5°	48.8	48.8	48.8	49.5	49.5	49.5	50.2	49.5
65°	40.4	40.4	41.1	41.1	41.1	41.8	41.8	41.8
67.5°	33.5	33.5	33.5	33.5	34.2	34.2	34.8	34.2
70°	27.9	27.9	27.9	27.9	27.9	28.6	28.6	28.6
72.5°	22.3	22.3	22.3	22.3	23.0	23.0	23.0	23.0
75°	15.3	15.3	15.3	16.0	15.3	15.3	15.3	15.3
77.5°	7.7	7.7	7.7	7.7	7.7	7.0	7.0	7.0
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.1	2.8
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.7
85°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)