

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: P251668

Luminaire Tested: **LD4B10D010 EU4B10209035 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251668
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: LD4B10D010 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: 753.0 lumens
Efficiency: N/A
Efficacy: 74.9 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

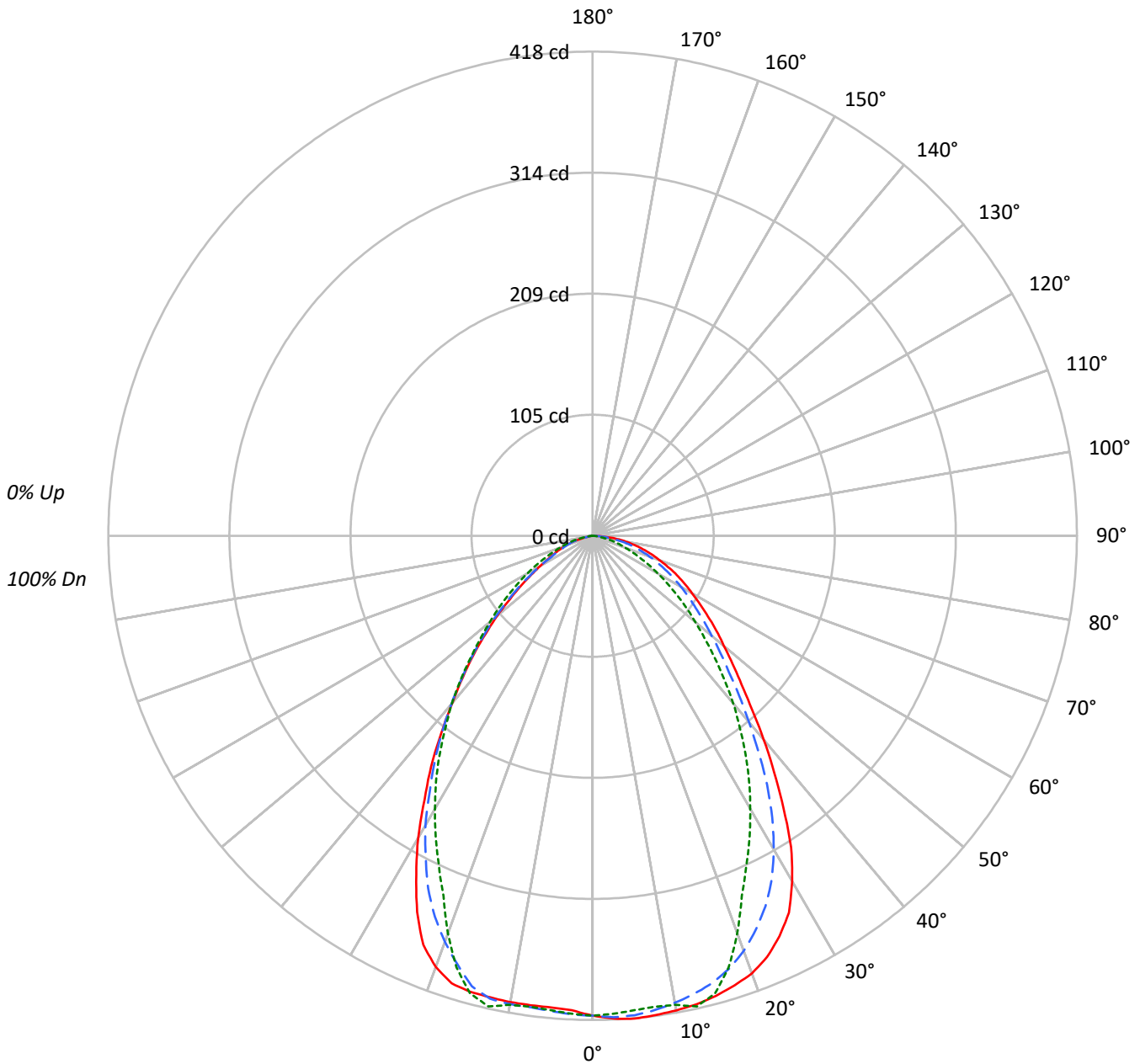
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251668

CATALOG NUMBER: LD4B10D010 EU4B10209035 4LBLWW1LI

Luminous Intensity Polar Plot





TEST NUMBER: P251668

CATALOG NUMBER: LD4B10D010 EU4B10209035 4LBLWW1LI

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	102	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°	40377	40377	40377
5°	40942	40228	39993
10°	41178	40693	40455
15°	41488	41246	41125
20°	41703	37866	41070
25°	41024	33765	38540
30°	38757	30621	33907
35°	34181	27388	28911
40°	29210	24032	23956
45°	25029	20509	20012
50°	22379	17497	16299
55°	20644	14969	12896
60°	19297	12670	10175
65°	18495	10516	8394
70°	17467	8491	7095
75°	16907	6853	5046
80°	16388	3760	1347
85°	14313	2013	671



TEST NUMBER: P251668

CATALOG NUMBER: LD4B10D010 EU4B10209035 4LBLWW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.4	5.2
10°-20°	113.2	15.0
20°-30°	157.0	20.9
30°-40°	155.0	20.6
40°-50°	121.6	16.1
50°-60°	84.2	11.2
60°-70°	51.6	6.9
70°-80°	25.8	3.4
80°-90°	5.2	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°	309.6	41.1
0°-40°	464.6	61.7
0°-60°	670.4	89.0
0°-90°	753.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	753.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	414	414	414	414	414	
5°	418	416	411	412	409	40
15°	411	400	409	403	408	116
25°	382	353	314	336	358	175
35°	287	262	230	238	243	179
45°	182	166	149	147	145	142
55°	122	109	88	78	76	109
65°	80	69	46	34	36	79
75°	45	38	18	14	13	48
85°	13	7	2	1	1	15
90°	0	0	0	0	0	



TEST NUMBER: P251668

CATALOG NUMBER: LD4B10D010 EU4B10209035 4LBLWW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3
2.5°	417.3	416.1	415.5	417.3	416.7	417.9	417.3	416.7	415.5	416.1	416.1
5°	418.5	416.7	416.1	417.3	417.3	418.5	417.9	416.7	415.5	416.1	415.5
7.5°	417.3	416.1	416.1	416.7	416.1	417.3	416.1	414.9	413.6	414.3	413.0
10°	416.1	414.3	414.3	414.3	414.3	415.5	414.3	412.4	410.6	410.6	409.4
12.5°	414.3	412.4	412.4	413.0	411.8	413.0	411.8	408.8	407.0	406.4	405.1
15°	411.2	409.4	409.4	409.4	408.2	408.8	407.0	403.9	401.5	401.5	399.7
17.5°	407.0	405.1	404.5	404.5	402.7	403.3	401.5	398.5	394.8	393.6	391.8
20°	402.1	399.7	398.5	398.5	396.6	397.2	394.8	391.2	386.3	384.5	381.5
22.5°	393.6	392.4	390.6	390.0	388.1	387.5	385.1	380.2	376.0	373.0	368.1
25°	381.5	380.8	379.0	378.4	376.0	374.8	372.3	366.9	362.6	357.8	352.9
27.5°	366.9	364.4	363.2	361.4	359.0	358.4	355.3	350.5	343.8	340.8	334.7
30°	344.4	343.2	342.0	340.2	337.7	336.5	334.7	329.2	323.8	318.3	312.8
32.5°	318.9	316.5	314.6	315.2	312.2	311.0	308.0	303.1	298.2	294.6	288.5
35°	287.3	286.7	286.1	284.9	282.4	281.8	279.4	275.8	270.3	266.0	262.4
37.5°	257.5	255.7	254.5	254.5	252.1	252.1	250.3	246.0	243.0	239.9	235.1
40°	229.6	226.6	226.6	226.6	224.1	224.7	223.5	219.3	216.2	212.6	209.6
42.5°	203.5	202.3	201.7	200.4	199.2	199.2	198.0	195.6	192.5	190.1	187.1
45°	181.6	181.0	180.4	179.8	178.6	178.0	177.4	173.7	171.9	169.5	166.4
47.5°	164.0	162.8	162.2	161.6	160.4	159.7	158.5	156.1	154.3	151.9	149.4
50°	147.6	147.0	146.4	146.4	145.2	144.6	143.3	141.5	138.5	137.3	134.2
52.5°	134.8	133.6	132.4	132.4	131.2	131.2	129.4	127.6	124.5	123.3	120.9
55°	121.5	120.9	120.3	120.3	119.1	118.4	117.8	115.4	113.0	111.2	108.7
57.5°	109.9	109.3	108.7	108.7	107.5	106.9	106.3	104.5	102.0	100.8	97.8
60°	99.0	99.0	98.4	97.8	97.2	96.6	96.0	94.1	92.3	90.5	88.1
62.5°	89.3	88.7	88.1	87.5	87.5	86.9	86.3	83.8	82.6	80.8	78.4
65°	80.2	79.0	79.0	78.4	78.4	77.7	77.1	74.7	73.5	71.7	69.2
67.5°	70.5	69.9	69.2	69.2	68.6	68.6	68.0	66.2	64.4	63.2	60.7
70°	61.3	61.3	60.7	60.7	60.1	59.5	59.5	58.3	56.5	54.7	52.2
72.5°	53.5	52.8	52.2	52.2	51.6	51.6	51.0	49.8	48.6	47.4	44.3
75°	44.9	44.3	44.3	44.3	43.7	43.7	43.1	41.9	40.7	39.5	37.7
77.5°	37.1	37.1	36.4	36.4	35.8	35.8	35.8	34.6	33.4	32.2	29.8
80°	29.2	29.2	29.2	28.5	27.9	27.9	27.9	26.7	25.5	24.3	22.5
82.5°	21.3	20.7	20.7	20.0	19.4	19.4	19.4	18.2	17.6	15.8	14.6
85°	12.8	12.1	12.1	11.5	10.9	10.9	10.9	10.3	9.1	8.5	7.3
87.5°	4.9	4.9	4.9	4.9	4.9	4.3	4.3	3.6	3.6	3.0	3.0
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: P251668

CATALOG NUMBER: LD4B10D010 EU4B10209035 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3
2.5°	416.1	415.5	415.5	414.9	415.5	414.3	414.3	414.3	414.3	413.0	413.0
5°	414.9	414.9	414.3	413.6	414.3	413.0	413.6	413.0	413.0	411.2	411.2
7.5°	412.4	411.8	410.6	410.0	410.6	410.0	410.0	410.0	411.2	410.0	410.0
10°	408.2	407.6	406.4	405.8	405.8	405.1	406.4	407.6	410.0	411.2	413.6
12.5°	403.9	402.7	402.1	402.1	402.7	402.7	405.1	408.2	414.3	416.1	418.5
15°	398.5	397.9	397.9	399.7	402.1	403.9	408.8	410.6	411.2	408.8	407.6
17.5°	391.2	391.2	391.8	393.6	395.4	395.4	396.0	394.8	393.6	390.6	386.9
20°	379.0	378.4	377.2	377.2	377.2	374.8	376.0	371.7	368.7	365.1	359.6
22.5°	363.8	360.8	356.6	353.5	351.7	350.5	347.4	342.6	338.9	336.5	334.1
25°	347.4	342.6	336.5	331.6	328.6	328.0	323.8	319.5	317.1	314.0	312.8
27.5°	328.6	323.1	315.9	311.0	308.6	306.7	303.1	298.8	295.8	293.4	291.6
30°	306.7	301.3	295.2	289.1	286.7	283.7	280.0	277.0	273.9	272.1	270.9
32.5°	282.4	277.0	270.9	266.7	263.6	261.2	258.2	255.1	252.7	251.5	250.3
35°	257.5	252.1	247.2	243.0	240.5	238.7	236.3	232.6	230.8	230.2	229.0
37.5°	230.8	227.2	222.9	219.3	217.5	215.0	213.8	210.8	210.8	208.3	208.3
40°	205.9	203.5	199.2	196.2	195.0	193.2	191.3	190.1	189.5	188.9	188.3
42.5°	184.0	180.4	178.0	175.5	173.7	172.5	172.5	170.7	170.1	168.3	167.6
45°	164.0	162.2	157.9	156.1	155.5	153.7	153.1	151.9	150.0	148.8	148.2
47.5°	146.4	144.6	142.1	139.7	138.5	137.3	136.1	134.2	133.0	131.2	130.6
50°	131.8	128.8	126.3	124.5	122.7	122.1	120.9	118.4	117.2	115.4	115.4
52.5°	118.4	116.0	113.0	111.2	109.3	108.1	106.3	104.5	102.7	102.0	100.2
55°	106.9	103.9	100.8	98.4	96.6	94.8	94.1	91.7	89.3	88.1	86.9
57.5°	96.0	92.9	89.3	86.3	85.0	83.8	82.0	79.6	77.7	75.9	74.7
60°	85.0	82.6	79.0	75.9	74.7	72.9	71.1	68.6	66.8	65.0	63.8
62.5°	75.9	72.3	69.2	66.2	64.4	63.2	60.7	58.9	56.5	54.7	52.8
65°	66.8	63.2	60.1	57.1	55.9	54.1	52.2	49.8	47.4	45.6	43.1
67.5°	57.7	54.7	51.6	48.6	47.4	46.2	43.7	41.3	38.9	37.1	34.6
70°	49.8	46.8	43.7	41.3	40.1	38.9	36.4	34.0	32.2	29.8	27.9
72.5°	42.5	40.1	37.1	34.6	33.4	32.2	29.8	27.9	25.5	24.3	22.5
75°	35.2	32.8	30.4	27.9	26.7	25.5	23.7	21.9	20.0	18.2	17.0
77.5°	27.9	25.5	23.1	21.3	20.0	19.4	17.6	15.8	14.0	12.8	10.9
80°	20.7	18.2	16.4	14.6	13.4	12.8	10.9	9.7	8.5	6.7	6.1
82.5°	12.8	10.9	9.7	8.5	7.9	7.3	6.1	4.9	4.3	3.6	3.0
85°	6.7	6.1	4.9	4.3	3.6	3.6	3.0	2.4	1.8	1.8	1.2
87.5°	2.4	1.8	1.8	1.2	1.2	1.2	1.2	0.6	0.6	0.6	0.6
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: P251668

CATALOG NUMBER: LD4B10D010 EU4B10209035 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3
2.5°	411.8	412.4	413.0	413.6	413.0	413.0	414.3	411.8	413.6	413.6	411.2
5°	410.6	411.8	411.2	412.4	411.2	411.2	411.8	410.6	411.8	411.8	410.0
7.5°	409.4	410.6	410.6	411.2	410.6	410.6	411.2	409.4	410.6	410.6	408.8
10°	414.9	416.1	415.5	414.9	413.0	411.8	412.4	409.4	410.6	410.6	408.8
12.5°	416.7	416.1	413.6	412.4	411.2	410.0	410.6	408.2	409.4	409.4	408.2
15°	404.5	403.3	401.5	402.1	400.9	400.3	401.5	400.3	402.7	403.9	402.7
17.5°	383.9	383.3	382.1	382.1	382.1	382.7	384.5	384.5	388.1	390.6	391.8
20°	357.2	356.6	357.2	358.4	359.0	361.4	365.7	368.1	373.0	377.2	380.2
22.5°	332.9	334.1	335.9	338.3	338.9	342.0	347.4	349.9	355.9	360.8	363.8
25°	312.2	314.0	315.2	317.1	317.7	321.3	326.2	329.2	335.9	339.5	343.2
27.5°	291.6	294.0	294.6	297.0	297.0	300.7	304.9	308.0	312.2	315.9	318.9
30°	271.5	272.1	273.9	274.6	275.8	279.4	281.8	283.7	288.5	290.3	292.2
32.5°	249.6	252.1	253.3	253.9	253.3	256.3	258.8	260.0	261.8	264.2	265.4
35°	229.0	230.2	230.8	232.0	232.6	233.2	234.5	235.1	237.5	238.1	238.7
37.5°	208.3	210.2	209.6	210.2	210.2	210.8	212.0	211.4	213.2	213.8	213.2
40°	187.7	187.7	188.9	188.3	188.9	188.3	189.5	189.5	189.5	190.1	189.5
42.5°	167.0	167.6	167.0	168.3	167.0	167.6	167.6	167.0	167.6	167.0	167.0
45°	148.2	148.2	148.2	148.2	147.0	147.0	148.2	147.6	147.0	146.4	145.8
47.5°	130.0	130.6	129.4	130.0	129.4	128.8	128.2	128.2	127.6	126.3	125.7
50°	114.8	113.6	113.0	113.6	113.0	112.4	111.8	110.5	109.9	108.7	108.1
52.5°	99.6	98.4	97.2	97.2	96.6	95.4	94.8	93.5	92.9	91.7	91.7
55°	86.3	85.0	83.8	83.2	82.0	80.8	80.2	79.0	78.4	77.1	75.9
57.5°	73.5	71.7	70.5	69.9	69.2	67.4	66.8	65.6	64.4	63.2	62.6
60°	62.0	60.1	58.3	57.7	57.1	55.3	54.7	52.8	52.2	51.0	50.4
62.5°	51.0	49.8	47.4	46.8	45.6	44.3	42.5	41.9	41.3	41.9	41.9
65°	41.3	39.5	37.7	37.1	35.8	34.6	34.0	33.4	34.0	34.0	34.6
67.5°	32.8	31.0	29.2	29.2	28.5	27.3	27.3	27.3	27.9	27.9	28.5
70°	26.1	24.9	23.7	23.1	23.1	22.5	23.1	23.1	23.7	23.7	23.7
72.5°	20.7	20.0	19.4	18.8	18.8	18.8	18.8	18.8	18.8	18.8	19.4
75°	15.8	15.2	14.6	14.6	14.0	14.0	14.0	14.0	14.0	14.0	13.4
77.5°	10.3	9.7	9.1	9.1	8.5	7.9	7.9	7.3	7.3	7.3	7.3
80°	5.5	4.9	4.3	3.6	3.6	3.0	3.0	3.0	3.0	2.4	2.4
82.5°	2.4	1.8	1.8	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2
85°	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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: P251668

CATALOG NUMBER: LD4B10D010 EU4B10209035 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3
2.5°	412.4	411.2	412.4	413.0	411.8	411.2	412.4	410.0
5°	411.8	410.0	410.6	411.2	410.0	409.4	410.6	408.8
7.5°	410.6	410.0	410.6	411.2	409.4	409.4	410.6	408.8
10°	410.6	409.4	410.0	411.2	410.0	410.0	411.2	408.8
12.5°	410.0	408.2	410.0	410.6	409.4	409.4	410.6	408.2
15°	405.8	405.8	406.4	407.6	407.0	407.6	409.4	407.6
17.5°	396.6	397.9	400.3	402.1	403.3	404.5	406.4	405.1
20°	385.7	387.5	390.6	392.4	394.8	395.4	398.5	396.0
22.5°	368.7	372.3	374.8	376.6	378.4	380.2	382.7	382.1
25°	348.0	350.5	352.3	354.1	356.6	357.8	359.0	358.4
27.5°	323.1	324.4	326.8	328.0	329.2	330.4	332.9	329.8
30°	295.8	296.4	297.6	299.5	299.5	300.7	301.9	301.3
32.5°	267.9	267.9	269.1	270.3	269.7	270.3	272.7	269.7
35°	240.5	239.9	241.7	242.4	242.4	241.7	243.6	243.0
37.5°	213.8	214.4	215.0	215.6	214.4	215.6	215.6	214.4
40°	189.5	188.9	190.1	190.7	190.1	190.7	190.7	188.3
42.5°	167.6	166.4	167.0	167.6	167.0	167.6	167.0	165.8
45°	146.4	145.8	145.8	146.4	145.2	145.2	145.2	145.2
47.5°	126.3	125.7	126.3	126.3	125.1	125.1	125.7	125.1
50°	108.1	107.5	107.5	107.5	106.9	106.9	107.5	107.5
52.5°	91.7	90.5	90.5	90.5	90.5	90.5	91.1	89.9
55°	75.3	75.3	75.3	75.3	75.9	75.9	75.9	75.9
57.5°	62.0	62.6	62.6	63.2	62.6	63.2	63.2	62.6
60°	51.6	51.0	51.6	51.6	52.2	52.2	52.2	52.2
62.5°	42.5	42.5	42.5	43.1	43.1	43.1	43.7	43.1
65°	35.2	35.2	35.8	35.8	35.8	36.4	36.4	36.4
67.5°	29.2	29.2	29.2	29.2	29.8	29.8	30.4	29.8
70°	24.3	24.3	24.3	24.3	24.3	24.9	24.9	24.9
72.5°	19.4	19.4	19.4	19.4	20.0	20.0	20.0	20.0
75°	13.4	13.4	13.4	14.0	13.4	13.4	13.4	13.4
77.5°	6.7	6.7	6.7	6.7	6.7	6.1	6.1	6.1
80°	2.4	2.4	2.4	2.4	2.4	2.4	1.8	2.4
82.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.6
85°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)