

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: P251669

Luminaire Tested: **LD4B10D010 EU4B10209040 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251669
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 EU4B10209040 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 754.0 lumens
Efficiency: N/A
Efficacy: 75.0 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

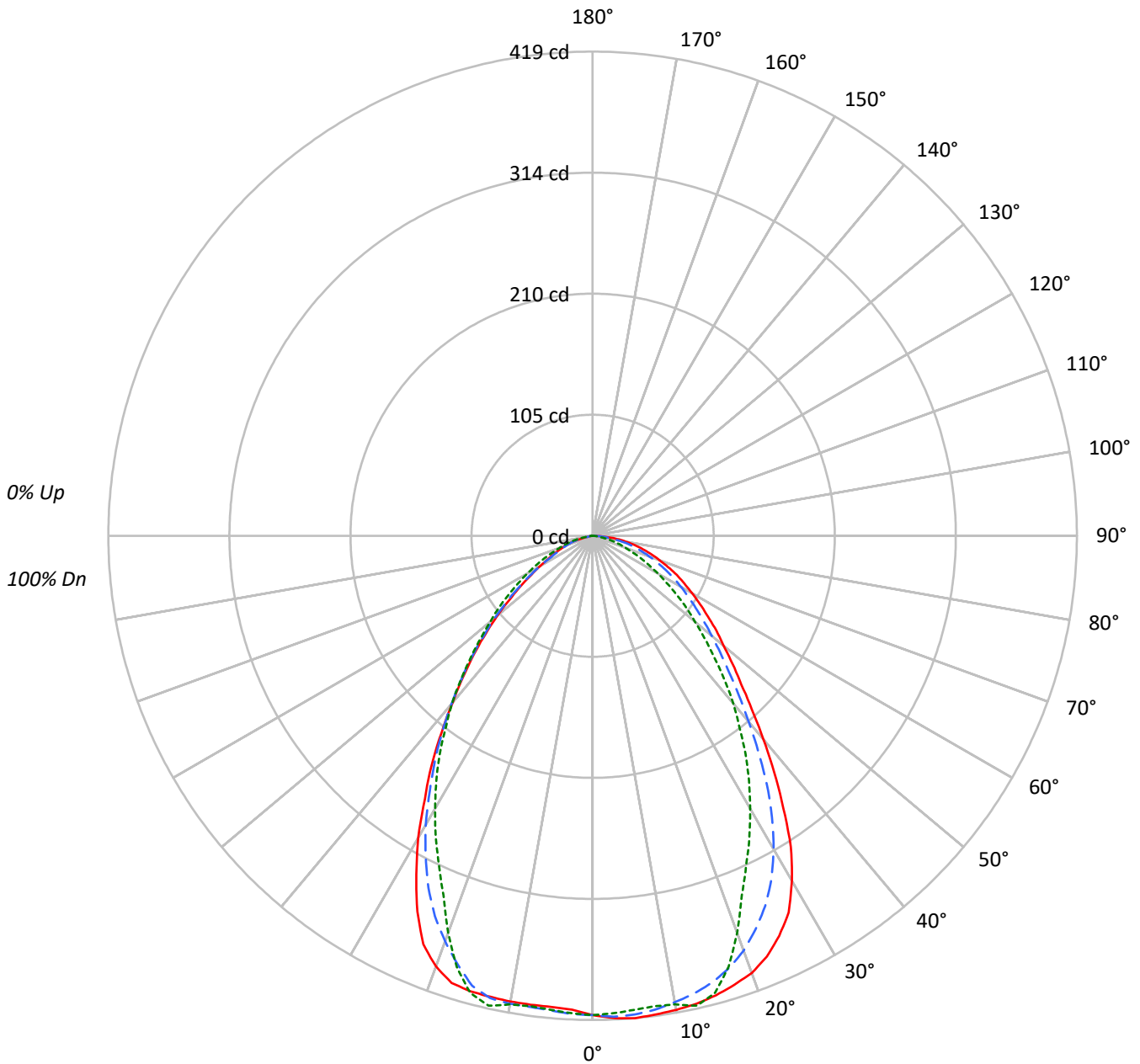
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251669

CATALOG NUMBER: LD4B10D010 EU4B10209040 4LBLWW1LI

Luminous Intensity Polar Plot





TEST NUMBER: P251669

CATALOG NUMBER: LD4B10D010 EU4B10209040 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°	40426	40426	40426
5°	41001	40287	40042
10°	41227	40752	40505
15°	41549	41297	41176
20°	41755	37907	41132
25°	41078	33808	38583
30°	38813	30666	33952
35°	34229	27424	28946
40°	29248	24070	23981
45°	25071	20536	20040
50°	22409	17527	16329
55°	20661	14986	12913
60°	19316	12689	10194
65°	18518	10516	8417
70°	17496	8491	7095
75°	16945	6853	5046
80°	16388	3760	1347
85°	14313	2013	671



TEST NUMBER: P251669

CATALOG NUMBER: LD4B10D010 EU4B10209040 4LBLWW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.4	5.2
10°-20°	113.4	15.0
20°-30°	157.3	20.9
30°-40°	155.2	20.6
40°-50°	121.8	16.1
50°-60°	84.3	11.2
60°-70°	51.7	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°	310.0	41.1
0°-40°	465.3	61.7
0°-60°	671.3	89.0
0°-90°	754.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	754.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	415	415	415	415	415	
5°	419	416	412	412	409	40
15°	412	400	409	403	408	116
25°	382	353	314	336	359	175
35°	288	263	230	238	243	180
45°	182	167	149	147	145	142
55°	122	109	88	78	76	110
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: P251669

CATALOG NUMBER: LD4B10D010 EU4B10209040 4LBLWW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8
2.5°	417.8	416.6	416.0	417.8	417.2	418.5	417.8	417.2	416.0	416.6	416.6
5°	419.1	417.2	416.6	417.8	417.8	419.1	418.5	417.2	416.0	416.6	416.0
7.5°	417.8	416.6	416.6	417.2	416.6	417.8	416.6	415.4	414.2	414.8	413.6
10°	416.6	414.8	414.8	414.8	414.8	416.0	414.8	413.0	411.2	411.2	409.9
12.5°	414.8	413.0	413.0	413.6	412.4	413.6	412.4	409.3	407.5	406.9	405.7
15°	411.8	409.9	409.9	409.9	408.7	409.3	407.5	404.5	402.0	402.0	400.2
17.5°	407.5	405.7	405.1	405.1	403.2	403.9	402.0	399.0	395.3	394.1	392.3
20°	402.6	400.2	399.0	399.0	397.2	397.8	395.3	391.7	386.8	385.0	382.0
22.5°	394.1	392.9	391.1	390.5	388.7	388.0	385.6	380.7	376.5	373.4	368.6
25°	382.0	381.4	379.5	378.9	376.5	375.3	372.8	367.4	363.1	358.2	353.4
27.5°	367.4	364.9	363.7	361.9	359.5	358.8	355.8	350.9	344.3	341.2	335.1
30°	344.9	343.6	342.4	340.6	338.2	337.0	335.1	329.7	324.2	318.7	313.2
32.5°	319.3	316.9	315.1	315.7	312.6	311.4	308.4	303.5	298.6	295.0	288.9
35°	287.7	287.1	286.5	285.3	282.8	282.2	279.8	276.1	270.7	266.4	262.8
37.5°	257.9	256.1	254.8	254.8	252.4	252.4	250.6	246.3	243.3	240.2	235.4
40°	229.9	226.9	226.9	226.9	224.4	225.0	223.8	219.6	216.5	212.9	209.8
42.5°	203.8	202.5	201.9	200.7	199.5	199.5	198.3	195.8	192.8	190.4	187.3
45°	181.9	181.2	180.6	180.0	178.8	178.2	177.6	174.0	172.1	169.7	166.7
47.5°	164.2	163.0	162.4	161.8	160.6	160.0	158.7	156.3	154.5	152.1	149.6
50°	147.8	147.2	146.6	146.6	145.4	144.8	143.5	141.7	138.7	137.5	134.4
52.5°	135.0	133.8	132.6	132.6	131.4	131.4	129.6	127.7	124.7	123.5	121.0
55°	121.6	121.0	120.4	120.4	119.2	118.6	118.0	115.6	113.1	111.3	108.9
57.5°	110.1	109.5	108.9	108.9	107.7	107.0	106.4	104.6	102.2	101.0	97.9
60°	99.1	99.1	98.5	97.9	97.3	96.7	96.1	94.3	92.4	90.6	88.2
62.5°	89.4	88.8	88.2	87.6	87.6	87.0	86.4	83.9	82.7	80.9	78.5
65°	80.3	79.1	79.1	78.5	78.5	77.9	77.2	74.8	73.6	71.8	69.3
67.5°	70.6	69.9	69.3	69.3	68.7	68.7	68.1	66.3	64.5	63.3	60.8
70°	61.4	61.4	60.8	60.8	60.2	59.6	59.6	58.4	56.6	54.7	52.3
72.5°	53.5	52.9	52.3	52.3	51.7	51.7	51.1	49.9	48.7	47.4	44.4
75°	45.0	44.4	44.4	44.4	43.8	43.8	43.2	42.0	40.8	39.5	37.7
77.5°	37.1	37.1	36.5	36.5	35.9	35.9	35.9	34.7	33.5	32.2	29.8
80°	29.2	29.2	29.2	28.6	28.0	28.0	28.0	26.8	25.5	24.3	22.5
82.5°	21.3	20.7	20.7	20.1	19.5	19.5	19.5	18.2	17.6	15.8	14.6
85°	12.8	12.2	12.2	11.6	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: P251669

CATALOG NUMBER: LD4B10D010 EU4B10209040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8
2.5°	416.6	416.0	416.0	415.4	416.0	414.8	414.8	414.8	414.8	413.6	413.6
5°	415.4	415.4	414.8	414.2	414.8	413.6	414.2	413.6	413.6	411.8	411.8
7.5°	413.0	412.4	411.2	410.5	411.2	410.5	410.5	410.5	411.8	410.5	410.5
10°	408.7	408.1	406.9	406.3	406.3	405.7	406.9	408.1	410.5	411.8	414.2
12.5°	404.5	403.2	402.6	402.6	403.2	403.2	405.7	408.7	414.8	416.6	419.1
15°	399.0	398.4	398.4	400.2	402.6	404.5	409.3	411.2	411.8	409.3	408.1
17.5°	391.7	391.7	392.3	394.1	396.0	396.0	396.6	395.3	394.1	391.1	387.4
20°	379.5	378.9	377.7	377.7	377.7	375.3	376.5	372.2	369.2	365.5	360.1
22.5°	364.3	361.3	357.0	354.0	352.2	350.9	347.9	343.0	339.4	337.0	334.5
25°	347.9	343.0	337.0	332.1	329.0	328.4	324.2	319.9	317.5	314.4	313.2
27.5°	329.0	323.6	316.3	311.4	309.0	307.2	303.5	299.2	296.2	293.8	291.9
30°	307.2	301.7	295.6	289.5	287.1	284.0	280.4	277.3	274.3	272.5	271.3
32.5°	282.8	277.3	271.3	267.0	264.0	261.5	258.5	255.5	253.0	251.8	250.6
35°	257.9	252.4	247.5	243.3	240.9	239.0	236.6	232.9	231.1	230.5	229.3
37.5°	231.1	227.5	223.2	219.6	217.7	215.3	214.1	211.1	211.1	208.6	208.6
40°	206.2	203.8	199.5	196.5	195.2	193.4	191.6	190.4	189.8	189.2	188.5
42.5°	184.3	180.6	178.2	175.8	174.0	172.7	172.7	170.9	170.3	168.5	167.9
45°	164.2	162.4	158.1	156.3	155.7	153.9	153.3	152.1	150.2	149.0	148.4
47.5°	146.6	144.8	142.3	139.9	138.7	137.5	136.2	134.4	133.2	131.4	130.8
50°	132.0	128.9	126.5	124.7	122.9	122.3	121.0	118.6	117.4	115.6	115.6
52.5°	118.6	116.2	113.1	111.3	109.5	108.3	106.4	104.6	102.8	102.2	100.4
55°	107.0	104.0	101.0	98.5	96.7	94.9	94.3	91.8	89.4	88.2	87.0
57.5°	96.1	93.1	89.4	86.4	85.2	83.9	82.1	79.7	77.9	76.0	74.8
60°	85.2	82.7	79.1	76.0	74.8	73.0	71.2	68.7	66.9	65.1	63.9
62.5°	76.0	72.4	69.3	66.3	64.5	63.3	60.8	59.0	56.6	54.7	52.9
65°	66.9	63.3	60.2	57.2	56.0	54.1	52.3	49.9	47.4	45.6	43.2
67.5°	57.8	54.7	51.7	48.7	47.4	46.2	43.8	41.4	38.9	37.1	34.7
70°	49.9	46.8	43.8	41.4	40.1	38.9	36.5	34.1	32.2	29.8	28.0
72.5°	42.6	40.1	37.1	34.7	33.5	32.2	29.8	28.0	25.5	24.3	22.5
75°	35.3	32.8	30.4	28.0	26.8	25.5	23.7	21.9	20.1	18.2	17.0
77.5°	28.0	25.5	23.1	21.3	20.1	19.5	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: P251669

CATALOG NUMBER: LD4B10D010 EU4B10209040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8
2.5°	412.4	413.0	413.6	414.2	413.6	413.6	414.8	412.4	414.2	414.2	411.8
5°	411.2	412.4	411.8	413.0	411.8	411.8	412.4	411.2	412.4	412.4	410.5
7.5°	409.9	411.2	411.2	411.8	411.2	411.2	411.8	409.9	411.2	411.2	409.3
10°	415.4	416.6	416.0	415.4	413.6	412.4	413.0	409.9	411.2	411.2	409.3
12.5°	417.2	416.6	414.2	413.0	411.8	410.5	411.2	408.7	409.9	409.9	408.7
15°	405.1	403.9	402.0	402.6	401.4	400.8	402.0	400.8	403.2	404.5	403.2
17.5°	384.4	383.8	382.6	382.6	382.6	383.2	385.0	385.0	388.7	391.1	392.3
20°	357.6	357.0	357.6	358.8	359.5	361.9	366.1	368.6	373.4	377.7	380.7
22.5°	333.3	334.5	336.3	338.8	339.4	342.4	347.9	350.3	356.4	361.3	364.3
25°	312.6	314.4	315.7	317.5	318.1	321.7	326.6	329.7	336.3	340.0	343.6
27.5°	291.9	294.4	295.0	297.4	297.4	301.1	305.3	308.4	312.6	316.3	319.3
30°	271.9	272.5	274.3	274.9	276.1	279.8	282.2	284.0	288.9	290.7	292.6
32.5°	250.0	252.4	253.6	254.2	253.6	256.7	259.1	260.3	262.1	264.6	265.8
35°	229.3	230.5	231.1	232.3	232.9	233.6	234.8	235.4	237.8	238.4	239.0
37.5°	208.6	210.4	209.8	210.4	210.4	211.1	212.3	211.7	213.5	214.1	213.5
40°	187.9	187.9	189.2	188.5	189.2	188.5	189.8	189.8	189.8	190.4	189.8
42.5°	167.3	167.9	167.3	168.5	167.3	167.9	167.9	167.3	167.9	167.3	167.3
45°	148.4	148.4	148.4	148.4	147.2	147.2	148.4	147.8	147.2	146.6	146.0
47.5°	130.2	130.8	129.6	130.2	129.6	128.9	128.3	128.3	127.7	126.5	125.9
50°	115.0	113.7	113.1	113.7	113.1	112.5	111.9	110.7	110.1	108.9	108.3
52.5°	99.7	98.5	97.3	97.3	96.7	95.5	94.9	93.7	93.1	91.8	91.8
55°	86.4	85.2	83.9	83.3	82.1	80.9	80.3	79.1	78.5	77.2	76.0
57.5°	73.6	71.8	70.6	69.9	69.3	67.5	66.9	65.7	64.5	63.3	62.6
60°	62.0	60.2	58.4	57.8	57.2	55.3	54.7	52.9	52.3	51.1	50.5
62.5°	51.1	49.9	47.4	46.8	45.6	44.4	42.6	42.0	41.4	42.0	42.0
65°	41.4	39.5	37.7	37.1	35.9	34.7	34.1	33.5	34.1	34.1	34.7
67.5°	32.8	31.0	29.2	29.2	28.6	27.4	27.4	27.4	28.0	28.0	28.6
70°	26.2	24.9	23.7	23.1	23.1	22.5	23.1	23.1	23.7	23.7	23.7
72.5°	20.7	20.1	19.5	18.9	18.9	18.9	18.9	18.9	18.9	18.9	19.5
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: P251669

CATALOG NUMBER: LD4B10D010 EU4B10209040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	414.8	414.8	414.8	414.8	414.8	414.8	414.8	414.8
2.5°	413.0	411.8	413.0	413.6	412.4	411.8	413.0	410.5
5°	412.4	410.5	411.2	411.8	410.5	409.9	411.2	409.3
7.5°	411.2	410.5	411.2	411.8	409.9	409.9	411.2	409.3
10°	411.2	409.9	410.5	411.8	410.5	410.5	411.8	409.3
12.5°	410.5	408.7	410.5	411.2	409.9	409.9	411.2	408.7
15°	406.3	406.3	406.9	408.1	407.5	408.1	409.9	408.1
17.5°	397.2	398.4	400.8	402.6	403.9	405.1	406.9	405.7
20°	386.2	388.0	391.1	392.9	395.3	396.0	399.0	396.6
22.5°	369.2	372.8	375.3	377.1	378.9	380.7	383.2	382.6
25°	348.5	350.9	352.8	354.6	357.0	358.2	359.5	358.8
27.5°	323.6	324.8	327.2	328.4	329.7	330.9	333.3	330.3
30°	296.2	296.8	298.0	299.9	299.9	301.1	302.3	301.7
32.5°	268.2	268.2	269.4	270.7	270.0	270.7	273.1	270.0
35°	240.9	240.2	242.1	242.7	242.7	242.1	243.9	243.3
37.5°	214.1	214.7	215.3	215.9	214.7	215.9	215.9	214.7
40°	189.8	189.2	190.4	191.0	190.4	191.0	191.0	188.5
42.5°	167.9	166.7	167.3	167.9	167.3	167.9	167.3	166.0
45°	146.6	146.0	146.0	146.6	145.4	145.4	145.4	145.4
47.5°	126.5	125.9	126.5	126.5	125.3	125.3	125.9	125.3
50°	108.3	107.7	107.7	107.7	107.0	107.0	107.7	107.7
52.5°	91.8	90.6	90.6	90.6	90.6	90.6	91.2	90.0
55°	75.4	75.4	75.4	75.4	76.0	76.0	76.0	76.0
57.5°	62.0	62.6	62.6	63.3	62.6	63.3	63.3	62.6
60°	51.7	51.1	51.7	51.7	52.3	52.3	52.3	52.3
62.5°	42.6	42.6	42.6	43.2	43.2	43.2	43.8	43.2
65°	35.3	35.3	35.9	35.9	35.9	36.5	36.5	36.5
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°	19.5	19.5	19.5	19.5	20.1	20.1	20.1	20.1
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



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)