

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: P251693

Luminaire Tested: **LD4B20D010 EU4B10209030 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251693
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: LD4B20D010 EU4B10209030 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1400.0 lumens
Efficiency: N/A
Efficacy: 67.3 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

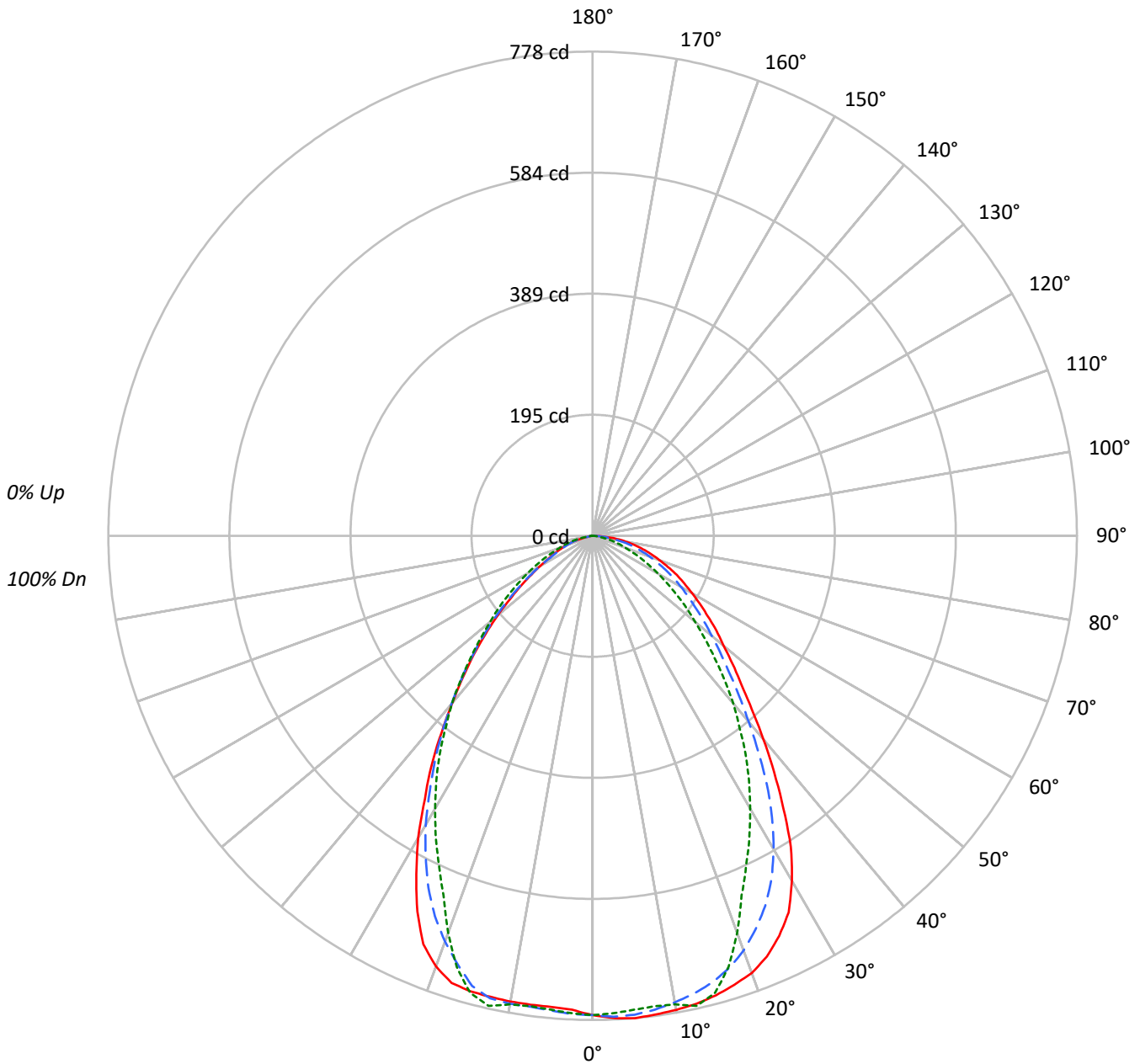
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251693

CATALOG NUMBER: LD4B20D010 EU4B10209030 4LBLWW1LI

Luminous Intensity Polar Plot





TEST NUMBER: P251693

CATALOG NUMBER: LD4B20D010 EU4B10209030 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				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°	75062	75062	75062
5°	76122	74791	74351
10°	76557	75656	75211
15°	77135	76681	76459
20°	77536	70390	76364
25°	76262	62789	71649
30°	72056	56931	63031
35°	63556	50921	53741
40°	54311	44681	44541
45°	46544	38137	37199
50°	41604	32537	30308
55°	38383	27832	23992
60°	35884	23546	18926
65°	34383	19532	15635
70°	32513	15758	13193
75°	31480	12765	9338
80°	30419	6959	2526
85°	26501	3802	1230



TEST NUMBER: P251693

CATALOG NUMBER: LD4B20D010 EU4B10209030 4LBLWW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.2	5.2
10°-20°	210.5	15.0
20°-30°	292.0	20.9
30°-40°	288.2	20.6
40°-50°	226.1	16.1
50°-60°	156.6	11.2
60°-70°	95.9	6.9
70°-80°	47.9	3.4
80°-90°	9.6	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°	575.7	41.1
0°-40°	863.9	61.7
0°-60°	1246.5	89.0
0°-90°	1400.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1400.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	770	770	770	770	770	
5°	778	772	764	766	760	74
15°	764	743	760	749	758	216
25°	709	656	584	624	666	325
35°	534	488	428	442	452	333
45°	338	309	277	273	270	264
55°	226	202	164	146	141	203
65°	149	129	85	63	68	147
75°	84	70	34	26	25	89
85°	24	14	3	1	1	27
90°	0	0	0	0	0	



TEST NUMBER: P251693

CATALOG NUMBER: LD4B20D010 EU4B10209030 4LBLWW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2
2.5°	775.8	773.6	772.5	775.8	774.7	777.0	775.8	774.7	772.5	773.6	773.6
5°	778.1	774.7	773.6	775.8	775.8	778.1	777.0	774.7	772.5	773.6	772.5
7.5°	775.8	773.6	773.6	774.7	773.6	775.8	773.6	771.3	769.1	770.2	767.9
10°	773.6	770.2	770.2	770.2	770.2	772.5	770.2	766.8	763.4	763.4	761.2
12.5°	770.2	766.8	766.8	767.9	765.7	767.9	765.7	760.0	756.6	755.5	753.3
15°	764.5	761.2	761.2	761.2	758.9	760.0	756.6	751.0	746.5	746.5	743.1
17.5°	756.6	753.3	752.1	752.1	748.7	749.9	746.5	740.8	734.1	731.8	728.4
20°	747.6	743.1	740.8	740.8	737.4	738.6	734.1	727.3	718.2	714.9	709.2
22.5°	731.8	729.5	726.2	725.0	721.6	720.5	716.0	707.0	699.0	693.4	684.4
25°	709.2	708.1	704.7	703.6	699.0	696.8	692.3	682.1	674.2	665.2	656.1
27.5°	682.1	677.6	675.3	671.9	667.4	666.3	660.7	651.6	639.2	633.5	622.3
30°	640.3	638.1	635.8	632.4	627.9	625.6	622.3	612.1	601.9	591.8	581.6
32.5°	592.9	588.4	585.0	586.1	580.5	578.2	572.6	563.5	554.5	547.7	536.4
35°	534.2	533.0	531.9	529.7	525.1	524.0	519.5	512.7	502.5	494.6	487.9
37.5°	478.8	475.4	473.2	473.2	468.7	468.7	465.3	457.4	451.7	446.1	437.0
40°	426.9	421.2	421.2	421.2	416.7	417.8	415.6	407.7	402.0	395.3	389.6
42.5°	378.3	376.1	374.9	372.7	370.4	370.4	368.2	363.6	358.0	353.5	347.8
45°	337.7	336.5	335.4	334.3	332.0	330.9	329.8	323.0	319.6	315.1	309.4
47.5°	304.9	302.7	301.5	300.4	298.1	297.0	294.8	290.2	286.8	282.3	277.8
50°	274.4	273.3	272.2	272.2	269.9	268.8	266.5	263.1	257.5	255.2	249.6
52.5°	250.7	248.5	246.2	246.2	243.9	243.9	240.5	237.2	231.5	229.3	224.7
55°	225.9	224.7	223.6	223.6	221.3	220.2	219.1	214.6	210.1	206.7	202.1
57.5°	204.4	203.3	202.1	202.1	199.9	198.8	197.6	194.2	189.7	187.5	181.8
60°	184.1	184.1	182.9	181.8	180.7	179.6	178.4	175.0	171.7	168.3	163.8
62.5°	166.0	164.9	163.8	162.6	162.6	161.5	160.4	155.8	153.6	150.2	145.7
65°	149.1	146.8	146.8	145.7	145.7	144.6	143.4	138.9	136.6	133.3	128.7
67.5°	131.0	129.9	128.7	128.7	127.6	127.6	126.5	123.1	119.7	117.4	112.9
70°	114.1	114.1	112.9	112.9	111.8	110.7	110.7	108.4	105.0	101.6	97.1
72.5°	99.4	98.3	97.1	97.1	96.0	96.0	94.9	92.6	90.3	88.1	82.4
75°	83.6	82.4	82.4	82.4	81.3	81.3	80.2	77.9	75.7	73.4	70.0
77.5°	68.9	68.9	67.8	67.8	66.6	66.6	66.6	64.4	62.1	59.9	55.3
80°	54.2	54.2	54.2	53.1	51.9	51.9	51.9	49.7	47.4	45.2	41.8
82.5°	39.5	38.4	38.4	37.3	36.1	36.1	36.1	33.9	32.8	29.4	27.1
85°	23.7	22.6	22.6	21.5	20.3	20.3	20.3	19.2	16.9	15.8	13.6
87.5°	9.0	9.0	9.0	9.0	9.0	7.9	7.9	6.8	6.8	5.6	5.6
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: P251693

CATALOG NUMBER: LD4B20D010 EU4B10209030 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2
2.5°	773.6	772.5	772.5	771.3	772.5	770.2	770.2	770.2	770.2	767.9	767.9
5°	771.3	771.3	770.2	769.1	770.2	767.9	769.1	767.9	767.9	764.5	764.5
7.5°	766.8	765.7	763.4	762.3	763.4	762.3	762.3	762.3	764.5	762.3	762.3
10°	758.9	757.8	755.5	754.4	754.4	753.3	755.5	757.8	762.3	764.5	769.1
12.5°	751.0	748.7	747.6	747.6	748.7	748.7	753.3	758.9	770.2	773.6	778.1
15°	740.8	739.7	739.7	743.1	747.6	751.0	760.0	763.4	764.5	760.0	757.8
17.5°	727.3	727.3	728.4	731.8	735.2	735.2	736.3	734.1	731.8	726.2	719.4
20°	704.7	703.6	701.3	701.3	701.3	696.8	699.0	691.1	685.5	678.7	668.6
22.5°	676.5	670.8	662.9	657.3	653.9	651.6	646.0	636.9	630.2	625.6	621.1
25°	646.0	636.9	625.6	616.6	611.0	609.8	601.9	594.0	589.5	583.9	581.6
27.5°	611.0	600.8	587.2	578.2	573.7	570.3	563.5	555.6	550.0	545.5	542.1
30°	570.3	560.1	548.8	537.6	533.0	527.4	520.6	515.0	509.3	505.9	503.7
32.5°	525.1	515.0	503.7	495.8	490.1	485.6	480.0	474.3	469.8	467.5	465.3
35°	478.8	468.7	459.6	451.7	447.2	443.8	439.3	432.5	429.1	428.0	425.8
37.5°	429.1	422.4	414.5	407.7	404.3	399.8	397.5	391.9	391.9	387.4	387.4
40°	382.8	378.3	370.4	364.8	362.5	359.1	355.7	353.5	352.3	351.2	350.1
42.5°	342.2	335.4	330.9	326.4	323.0	320.7	320.7	317.3	316.2	312.8	311.7
45°	304.9	301.5	293.6	290.2	289.1	285.7	284.6	282.3	278.9	276.7	275.6
47.5°	272.2	268.8	264.3	259.7	257.5	255.2	253.0	249.6	247.3	243.9	242.8
50°	245.1	239.4	234.9	231.5	228.1	227.0	224.7	220.2	218.0	214.6	214.6
52.5°	220.2	215.7	210.1	206.7	203.3	201.0	197.6	194.2	190.9	189.7	186.3
55°	198.8	193.1	187.5	182.9	179.6	176.2	175.0	170.5	166.0	163.8	161.5
57.5°	178.4	172.8	166.0	160.4	158.1	155.8	152.5	147.9	144.6	141.2	138.9
60°	158.1	153.6	146.8	141.2	138.9	135.5	132.1	127.6	124.2	120.8	118.6
62.5°	141.2	134.4	128.7	123.1	119.7	117.4	112.9	109.5	105.0	101.6	98.3
65°	124.2	117.4	111.8	106.2	103.9	100.5	97.1	92.6	88.1	84.7	80.2
67.5°	107.3	101.6	96.0	90.3	88.1	85.8	81.3	76.8	72.3	68.9	64.4
70°	92.6	87.0	81.3	76.8	74.5	72.3	67.8	63.2	59.9	55.3	51.9
72.5°	79.1	74.5	68.9	64.4	62.1	59.9	55.3	51.9	47.4	45.2	41.8
75°	65.5	61.0	56.5	51.9	49.7	47.4	44.0	40.7	37.3	33.9	31.6
77.5°	51.9	47.4	42.9	39.5	37.3	36.1	32.8	29.4	26.0	23.7	20.3
80°	38.4	33.9	30.5	27.1	24.8	23.7	20.3	18.1	15.8	12.4	11.3
82.5°	23.7	20.3	18.1	15.8	14.7	13.6	11.3	9.0	7.9	6.8	5.6
85°	12.4	11.3	9.0	7.9	6.8	6.8	5.6	4.5	3.4	3.4	2.3
87.5°	4.5	3.4	3.4	2.3	2.3	2.3	2.3	1.1	1.1	1.1	1.1
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: P251693

CATALOG NUMBER: LD4B20D010 EU4B10209030 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2
2.5°	765.7	766.8	767.9	769.1	767.9	767.9	770.2	765.7	769.1	769.1	764.5
5°	763.4	765.7	764.5	766.8	764.5	764.5	765.7	763.4	765.7	765.7	762.3
7.5°	761.2	763.4	763.4	764.5	763.4	763.4	764.5	761.2	763.4	763.4	760.0
10°	771.3	773.6	772.5	771.3	767.9	765.7	766.8	761.2	763.4	763.4	760.0
12.5°	774.7	773.6	769.1	766.8	764.5	762.3	763.4	758.9	761.2	761.2	758.9
15°	752.1	749.9	746.5	747.6	745.4	744.2	746.5	744.2	748.7	751.0	748.7
17.5°	713.7	712.6	710.3	710.3	710.3	711.5	714.9	714.9	721.6	726.2	728.4
20°	664.0	662.9	664.0	666.3	667.4	671.9	679.8	684.4	693.4	701.3	707.0
22.5°	618.9	621.1	624.5	629.0	630.2	635.8	646.0	650.5	661.8	670.8	676.5
25°	580.5	583.9	586.1	589.5	590.6	597.4	606.4	612.1	624.5	631.3	638.1
27.5°	542.1	546.6	547.7	552.2	552.2	559.0	566.9	572.6	580.5	587.2	592.9
30°	504.8	505.9	509.3	510.5	512.7	519.5	524.0	527.4	536.4	539.8	543.2
32.5°	464.1	468.7	470.9	472.1	470.9	476.6	481.1	483.3	486.7	491.3	493.5
35°	425.8	428.0	429.1	431.4	432.5	433.7	435.9	437.0	441.6	442.7	443.8
37.5°	387.4	390.7	389.6	390.7	390.7	391.9	394.1	393.0	396.4	397.5	396.4
40°	349.0	349.0	351.2	350.1	351.2	350.1	352.3	352.3	352.3	353.5	352.3
42.5°	310.6	311.7	310.6	312.8	310.6	311.7	311.7	310.6	311.7	310.6	310.6
45°	275.6	275.6	275.6	275.6	273.3	273.3	275.6	274.4	273.3	272.2	271.0
47.5°	241.7	242.8	240.5	241.7	240.5	239.4	238.3	238.3	237.2	234.9	233.8
50°	213.4	211.2	210.1	211.2	210.1	208.9	207.8	205.5	204.4	202.1	201.0
52.5°	185.2	182.9	180.7	180.7	179.6	177.3	176.2	173.9	172.8	170.5	170.5
55°	160.4	158.1	155.8	154.7	152.5	150.2	149.1	146.8	145.7	143.4	141.2
57.5°	136.6	133.3	131.0	129.9	128.7	125.4	124.2	122.0	119.7	117.4	116.3
60°	115.2	111.8	108.4	107.3	106.2	102.8	101.6	98.3	97.1	94.9	93.7
62.5°	94.9	92.6	88.1	87.0	84.7	82.4	79.1	77.9	76.8	77.9	77.9
65°	76.8	73.4	70.0	68.9	66.6	64.4	63.2	62.1	63.2	63.2	64.4
67.5°	61.0	57.6	54.2	54.2	53.1	50.8	50.8	50.8	51.9	51.9	53.1
70°	48.6	46.3	44.0	42.9	42.9	41.8	42.9	42.9	44.0	44.0	44.0
72.5°	38.4	37.3	36.1	35.0	35.0	35.0	35.0	35.0	35.0	35.0	36.1
75°	29.4	28.2	27.1	27.1	26.0	26.0	26.0	26.0	26.0	26.0	24.8
77.5°	19.2	18.1	16.9	16.9	15.8	14.7	14.7	13.6	13.6	13.6	13.6
80°	10.2	9.0	7.9	6.8	6.8	5.6	5.6	5.6	5.6	4.5	4.5
82.5°	4.5	3.4	3.4	3.4	3.4	2.3	2.3	2.3	2.3	2.3	2.3
85°	2.3	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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: P251693

CATALOG NUMBER: LD4B20D010 EU4B10209030 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2
2.5°	766.8	764.5	766.8	767.9	765.7	764.5	766.8	762.3
5°	765.7	762.3	763.4	764.5	762.3	761.2	763.4	760.0
7.5°	763.4	762.3	763.4	764.5	761.2	761.2	763.4	760.0
10°	763.4	761.2	762.3	764.5	762.3	762.3	764.5	760.0
12.5°	762.3	758.9	762.3	763.4	761.2	761.2	763.4	758.9
15°	754.4	754.4	755.5	757.8	756.6	757.8	761.2	757.8
17.5°	737.4	739.7	744.2	747.6	749.9	752.1	755.5	753.3
20°	717.1	720.5	726.2	729.5	734.1	735.2	740.8	736.3
22.5°	685.5	692.3	696.8	700.2	703.6	707.0	711.5	710.3
25°	647.1	651.6	655.0	658.4	662.9	665.2	667.4	666.3
27.5°	600.8	603.1	607.6	609.8	612.1	614.3	618.9	613.2
30°	550.0	551.1	553.4	556.8	556.8	559.0	561.3	560.1
32.5°	498.0	498.0	500.3	502.5	501.4	502.5	507.1	501.4
35°	447.2	446.1	449.5	450.6	450.6	449.5	452.9	451.7
37.5°	397.5	398.6	399.8	400.9	398.6	400.9	400.9	398.6
40°	352.3	351.2	353.5	354.6	353.5	354.6	354.6	350.1
42.5°	311.7	309.4	310.6	311.7	310.6	311.7	310.6	308.3
45°	272.2	271.0	271.0	272.2	269.9	269.9	269.9	269.9
47.5°	234.9	233.8	234.9	234.9	232.6	232.6	233.8	232.6
50°	201.0	199.9	199.9	199.9	198.8	198.8	199.9	199.9
52.5°	170.5	168.3	168.3	168.3	168.3	168.3	169.4	167.1
55°	140.0	140.0	140.0	140.0	141.2	141.2	141.2	141.2
57.5°	115.2	116.3	116.3	117.4	116.3	117.4	117.4	116.3
60°	96.0	94.9	96.0	96.0	97.1	97.1	97.1	97.1
62.5°	79.1	79.1	79.1	80.2	80.2	80.2	81.3	80.2
65°	65.5	65.5	66.6	66.6	66.6	67.8	67.8	67.8
67.5°	54.2	54.2	54.2	54.2	55.3	55.3	56.5	55.3
70°	45.2	45.2	45.2	45.2	45.2	46.3	46.3	46.3
72.5°	36.1	36.1	36.1	36.1	37.3	37.3	37.3	37.3
75°	24.8	24.8	24.8	26.0	24.8	24.8	24.8	24.8
77.5°	12.4	12.4	12.4	12.4	12.4	11.3	11.3	11.3
80°	4.5	4.5	4.5	4.5	4.5	4.5	3.4	4.5
82.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.1
85°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)