

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: P251661

Luminaire Tested: **LD4B10D010 EU4B10208030 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251661
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 EU4B10208030 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 869.0 lumens
Efficiency: N/A
Efficacy: 86.5 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

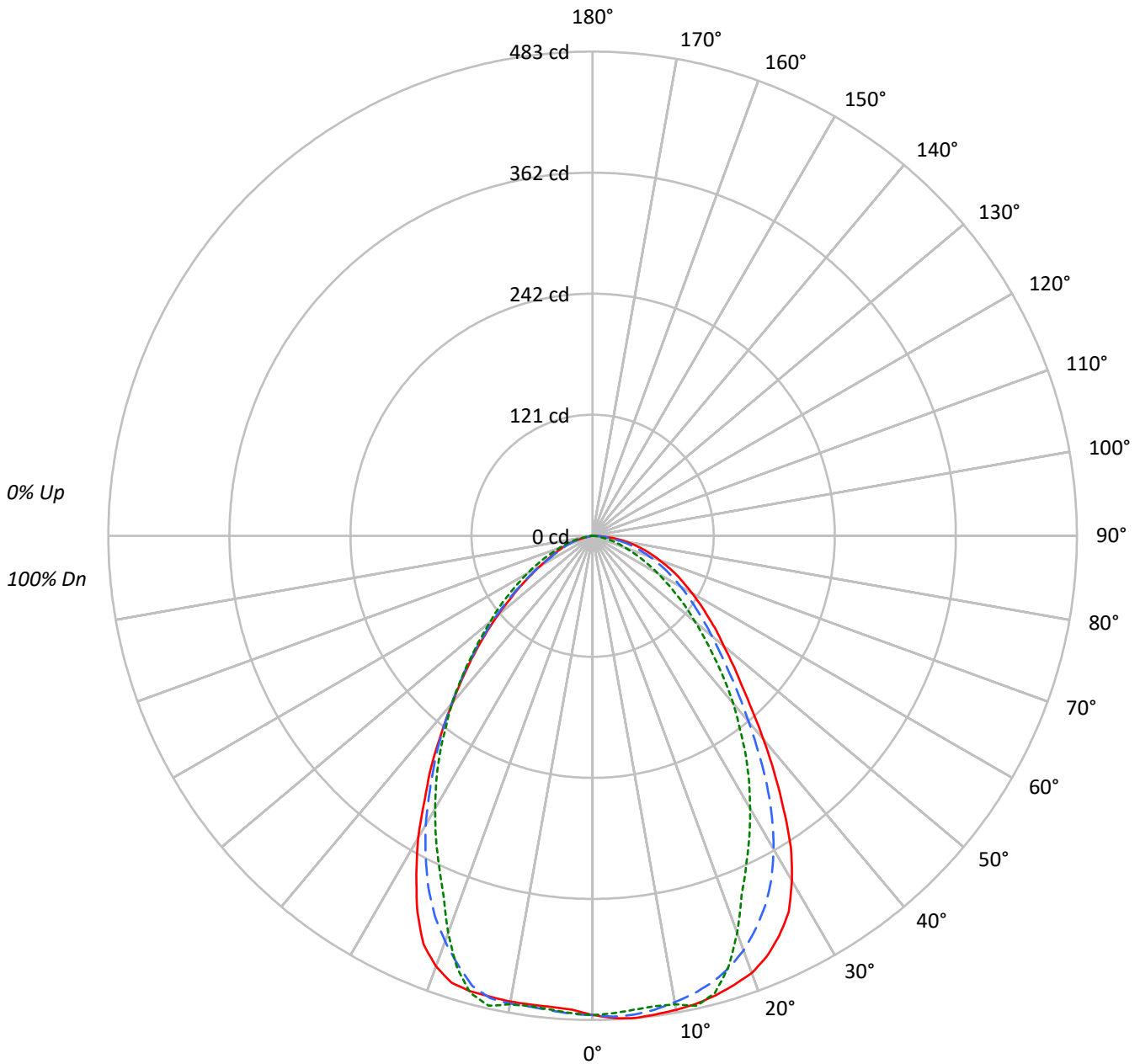
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251661

CATALOG NUMBER: LD4B10D010 EU4B10208030 4LBLWW1LI

Luminous Intensity Polar Plot





TEST NUMBER: P251661

CATALOG NUMBER: LD4B10D010 EU4B10208030 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°	46595	46595	46595
5°	47252	46430	46156
10°	47521	46967	46690
15°	47885	47603	47461
20°	48133	43694	47397
25°	47336	38970	44476
30°	44733	35336	39128
35°	39452	31611	33360
40°	33714	27735	27645
45°	28888	23665	23086
50°	25821	20195	18816
55°	23822	17263	14884
60°	22279	14619	11753
65°	21331	12130	9708
70°	20174	9774	8178
75°	19543	7908	5799
80°	18858	4322	1571
85°	16438	2348	783



TEST NUMBER: P251661

CATALOG NUMBER: LD4B10D010 EU4B10208030 4LBLWW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	5.2
10°-20°	130.7	15.0
20°-30°	181.2	20.9
30°-40°	178.9	20.6
40°-50°	140.3	16.1
50°-60°	97.2	11.2
60°-70°	59.6	6.9
70°-80°	29.8	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°	357.3	41.1
0°-40°	536.2	61.7
0°-60°	773.7	89.0
0°-90°	869.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	869.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	478	478	478	478	478	
5°	483	480	475	475	472	46
15°	475	461	472	465	470	134
25°	440	407	362	388	414	201
35°	332	303	266	274	280	207
45°	210	192	172	170	168	164
55°	140	126	102	90	88	126
65°	92	80	53	39	42	91
75°	52	44	21	16	15	55
85°	15	8	2	1	1	17
90°	0	0	0	0	0	



TEST NUMBER: P251661

CATALOG NUMBER: LD4B10D010 EU4B10208030 4LBLWW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1
2.5°	481.6	480.2	479.5	481.6	480.9	482.3	481.6	480.9	479.5	480.2	480.2
5°	483.0	480.9	480.2	481.6	481.6	483.0	482.3	480.9	479.5	480.2	479.5
7.5°	481.6	480.2	480.2	480.9	480.2	481.6	480.2	478.8	477.4	478.1	476.7
10°	480.2	478.1	478.1	478.1	478.1	479.5	478.1	476.0	473.9	473.9	472.5
12.5°	478.1	476.0	476.0	476.7	475.3	476.7	475.3	471.8	469.7	469.0	467.6
15°	474.6	472.5	472.5	472.5	471.1	471.8	469.7	466.2	463.4	463.4	461.2
17.5°	469.7	467.6	466.9	466.9	464.8	465.5	463.4	459.8	455.6	454.2	452.1
20°	464.1	461.2	459.8	459.8	457.7	458.4	455.6	451.4	445.8	443.7	440.2
22.5°	454.2	452.8	450.7	450.0	447.9	447.2	444.4	438.8	433.9	430.4	424.8
25°	440.2	439.5	437.4	436.7	433.9	432.5	429.7	423.4	418.5	412.9	407.3
27.5°	423.4	420.6	419.2	417.1	414.3	413.6	410.1	404.5	396.8	393.3	386.2
30°	397.5	396.1	394.7	392.6	389.7	388.3	386.2	379.9	373.6	367.3	361.0
32.5°	368.0	365.2	363.1	363.8	360.3	358.9	355.4	349.8	344.2	340.0	333.0
35°	331.6	330.9	330.2	328.8	326.0	325.3	322.5	318.2	311.9	307.0	302.8
37.5°	297.2	295.1	293.7	293.7	290.9	290.9	288.8	283.9	280.4	276.9	271.3
40°	265.0	261.5	261.5	261.5	258.7	259.4	258.0	253.1	249.6	245.3	241.8
42.5°	234.8	233.4	232.7	231.3	229.9	229.9	228.5	225.7	222.2	219.4	215.9
45°	209.6	208.9	208.2	207.5	206.1	205.4	204.7	200.5	198.4	195.6	192.1
47.5°	189.3	187.9	187.2	186.5	185.1	184.4	183.0	180.2	178.0	175.2	172.4
50°	170.3	169.6	168.9	168.9	167.5	166.8	165.4	163.3	159.8	158.4	154.9
52.5°	155.6	154.2	152.8	152.8	151.4	151.4	149.3	147.2	143.7	142.3	139.5
55°	140.2	139.5	138.8	138.8	137.4	136.7	136.0	133.2	130.4	128.3	125.5
57.5°	126.9	126.2	125.5	125.5	124.1	123.4	122.7	120.6	117.8	116.4	112.9
60°	114.3	114.3	113.6	112.9	112.2	111.5	110.8	108.7	106.5	104.4	101.6
62.5°	103.0	102.3	101.6	100.9	100.9	100.2	99.5	96.7	95.3	93.2	90.4
65°	92.5	91.1	91.1	90.4	90.4	89.7	89.0	86.2	84.8	82.7	79.9
67.5°	81.3	80.6	79.9	79.9	79.2	79.2	78.5	76.4	74.3	72.9	70.1
70°	70.8	70.8	70.1	70.1	69.4	68.7	68.7	67.3	65.2	63.1	60.3
72.5°	61.7	61.0	60.3	60.3	59.6	59.6	58.9	57.5	56.1	54.7	51.2
75°	51.9	51.2	51.2	51.2	50.5	50.5	49.8	48.4	47.0	45.6	43.5
77.5°	42.8	42.8	42.1	42.1	41.4	41.4	41.4	40.0	38.6	37.2	34.3
80°	33.6	33.6	33.6	32.9	32.2	32.2	32.2	30.8	29.4	28.0	25.9
82.5°	24.5	23.8	23.8	23.1	22.4	22.4	22.4	21.0	20.3	18.2	16.8
85°	14.7	14.0	14.0	13.3	12.6	12.6	12.6	11.9	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: P251661

CATALOG NUMBER: LD4B10D010 EU4B10208030 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1
2.5°	480.2	479.5	479.5	478.8	479.5	478.1	478.1	478.1	478.1	476.7	476.7
5°	478.8	478.8	478.1	477.4	478.1	476.7	477.4	476.7	476.7	474.6	474.6
7.5°	476.0	475.3	473.9	473.2	473.9	473.2	473.2	473.2	474.6	473.2	473.2
10°	471.1	470.4	469.0	468.3	468.3	467.6	469.0	470.4	473.2	474.6	477.4
12.5°	466.2	464.8	464.1	464.1	464.8	464.8	467.6	471.1	478.1	480.2	483.0
15°	459.8	459.1	459.1	461.2	464.1	466.2	471.8	473.9	474.6	471.8	470.4
17.5°	451.4	451.4	452.1	454.2	456.3	456.3	457.0	455.6	454.2	450.7	446.5
20°	437.4	436.7	435.3	435.3	435.3	432.5	433.9	429.0	425.5	421.3	415.0
22.5°	419.9	416.4	411.5	408.0	405.9	404.5	401.0	395.4	391.1	388.3	385.5
25°	401.0	395.4	388.3	382.7	379.2	378.5	373.6	368.7	365.9	362.4	361.0
27.5°	379.2	372.9	364.5	358.9	356.1	354.0	349.8	344.9	341.4	338.6	336.5
30°	354.0	347.7	340.7	333.7	330.9	327.4	323.2	319.6	316.1	314.0	312.6
32.5°	326.0	319.6	312.6	307.7	304.2	301.4	297.9	294.4	291.6	290.2	288.8
35°	297.2	290.9	285.3	280.4	277.6	275.5	272.7	268.5	266.4	265.7	264.3
37.5°	266.4	262.2	257.3	253.1	251.0	248.1	246.7	243.2	243.2	240.4	240.4
40°	237.6	234.8	229.9	226.4	225.0	222.9	220.8	219.4	218.7	218.0	217.3
42.5°	212.4	208.2	205.4	202.6	200.5	199.1	199.1	197.0	196.3	194.2	193.5
45°	189.3	187.2	182.3	180.2	179.5	177.3	176.6	175.2	173.1	171.7	171.0
47.5°	168.9	166.8	164.0	161.2	159.8	158.4	157.0	154.9	153.5	151.4	150.7
50°	152.1	148.6	145.8	143.7	141.6	140.9	139.5	136.7	135.3	133.2	133.2
52.5°	136.7	133.9	130.4	128.3	126.2	124.8	122.7	120.6	118.5	117.8	115.7
55°	123.4	119.9	116.4	113.6	111.5	109.4	108.7	105.8	103.0	101.6	100.2
57.5°	110.8	107.3	103.0	99.5	98.1	96.7	94.6	91.8	89.7	87.6	86.2
60°	98.1	95.3	91.1	87.6	86.2	84.1	82.0	79.2	77.1	75.0	73.6
62.5°	87.6	83.4	79.9	76.4	74.3	72.9	70.1	68.0	65.2	63.1	61.0
65°	77.1	72.9	69.4	65.9	64.5	62.4	60.3	57.5	54.7	52.6	49.8
67.5°	66.6	63.1	59.6	56.1	54.7	53.3	50.5	47.7	44.9	42.8	40.0
70°	57.5	54.0	50.5	47.7	46.3	44.9	42.1	39.3	37.2	34.3	32.2
72.5°	49.1	46.3	42.8	40.0	38.6	37.2	34.3	32.2	29.4	28.0	25.9
75°	40.7	37.9	35.0	32.2	30.8	29.4	27.3	25.2	23.1	21.0	19.6
77.5°	32.2	29.4	26.6	24.5	23.1	22.4	20.3	18.2	16.1	14.7	12.6
80°	23.8	21.0	18.9	16.8	15.4	14.7	12.6	11.2	9.8	7.7	7.0
82.5°	14.7	12.6	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: P251661

CATALOG NUMBER: LD4B10D010 EU4B10208030 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1
2.5°	475.3	476.0	476.7	477.4	476.7	476.7	478.1	475.3	477.4	477.4	474.6
5°	473.9	475.3	474.6	476.0	474.6	474.6	475.3	473.9	475.3	475.3	473.2
7.5°	472.5	473.9	473.9	474.6	473.9	473.9	474.6	472.5	473.9	473.9	471.8
10°	478.8	480.2	479.5	478.8	476.7	475.3	476.0	472.5	473.9	473.9	471.8
12.5°	480.9	480.2	477.4	476.0	474.6	473.2	473.9	471.1	472.5	472.5	471.1
15°	466.9	465.5	463.4	464.1	462.6	461.9	463.4	461.9	464.8	466.2	464.8
17.5°	443.0	442.3	440.9	440.9	440.9	441.6	443.7	443.7	447.9	450.7	452.1
20°	412.2	411.5	412.2	413.6	414.3	417.1	422.0	424.8	430.4	435.3	438.8
22.5°	384.1	385.5	387.6	390.4	391.1	394.7	401.0	403.8	410.8	416.4	419.9
25°	360.3	362.4	363.8	365.9	366.6	370.8	376.4	379.9	387.6	391.9	396.1
27.5°	336.5	339.3	340.0	342.8	342.8	347.0	351.9	355.4	360.3	364.5	368.0
30°	313.3	314.0	316.1	316.8	318.2	322.5	325.3	327.4	333.0	335.1	337.2
32.5°	288.1	290.9	292.3	293.0	292.3	295.8	298.6	300.0	302.1	304.9	306.3
35°	264.3	265.7	266.4	267.8	268.5	269.2	270.6	271.3	274.1	274.8	275.5
37.5°	240.4	242.5	241.8	242.5	242.5	243.2	244.6	243.9	246.0	246.7	246.0
40°	216.6	216.6	218.0	217.3	218.0	217.3	218.7	218.7	218.7	219.4	218.7
42.5°	192.8	193.5	192.8	194.2	192.8	193.5	193.5	192.8	193.5	192.8	192.8
45°	171.0	171.0	171.0	171.0	169.6	169.6	171.0	170.3	169.6	168.9	168.2
47.5°	150.0	150.7	149.3	150.0	149.3	148.6	147.9	147.9	147.2	145.8	145.1
50°	132.5	131.1	130.4	131.1	130.4	129.7	129.0	127.6	126.9	125.5	124.8
52.5°	115.0	113.6	112.2	112.2	111.5	110.1	109.4	108.0	107.3	105.8	105.8
55°	99.5	98.1	96.7	96.0	94.6	93.2	92.5	91.1	90.4	89.0	87.6
57.5°	84.8	82.7	81.3	80.6	79.9	77.8	77.1	75.7	74.3	72.9	72.2
60°	71.5	69.4	67.3	66.6	65.9	63.8	63.1	61.0	60.3	58.9	58.2
62.5°	58.9	57.5	54.7	54.0	52.6	51.2	49.1	48.4	47.7	48.4	48.4
65°	47.7	45.6	43.5	42.8	41.4	40.0	39.3	38.6	39.3	39.3	40.0
67.5°	37.9	35.8	33.6	33.6	32.9	31.5	31.5	31.5	32.2	32.2	32.9
70°	30.1	28.7	27.3	26.6	26.6	25.9	26.6	26.6	27.3	27.3	27.3
72.5°	23.8	23.1	22.4	21.7	21.7	21.7	21.7	21.7	21.7	21.7	22.4
75°	18.2	17.5	16.8	16.8	16.1	16.1	16.1	16.1	16.1	16.1	15.4
77.5°	11.9	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: P251661

CATALOG NUMBER: LD4B10D010 EU4B10208030 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	478.1	478.1	478.1	478.1	478.1	478.1	478.1	478.1
2.5°	476.0	474.6	476.0	476.7	475.3	474.6	476.0	473.2
5°	475.3	473.2	473.9	474.6	473.2	472.5	473.9	471.8
7.5°	473.9	473.2	473.9	474.6	472.5	472.5	473.9	471.8
10°	473.9	472.5	473.2	474.6	473.2	473.2	474.6	471.8
12.5°	473.2	471.1	473.2	473.9	472.5	472.5	473.9	471.1
15°	468.3	468.3	469.0	470.4	469.7	470.4	472.5	470.4
17.5°	457.7	459.1	461.9	464.1	465.5	466.9	469.0	467.6
20°	445.1	447.2	450.7	452.8	455.6	456.3	459.8	457.0
22.5°	425.5	429.7	432.5	434.6	436.7	438.8	441.6	440.9
25°	401.7	404.5	406.6	408.7	411.5	412.9	414.3	413.6
27.5°	372.9	374.3	377.1	378.5	379.9	381.3	384.1	380.6
30°	341.4	342.1	343.5	345.6	345.6	347.0	348.4	347.7
32.5°	309.1	309.1	310.5	311.9	311.2	311.9	314.7	311.2
35°	277.6	276.9	279.0	279.7	279.7	279.0	281.1	280.4
37.5°	246.7	247.4	248.1	248.8	247.4	248.8	248.8	247.4
40°	218.7	218.0	219.4	220.1	219.4	220.1	220.1	217.3
42.5°	193.5	192.1	192.8	193.5	192.8	193.5	192.8	191.4
45°	168.9	168.2	168.2	168.9	167.5	167.5	167.5	167.5
47.5°	145.8	145.1	145.8	145.8	144.4	144.4	145.1	144.4
50°	124.8	124.1	124.1	124.1	123.4	123.4	124.1	124.1
52.5°	105.8	104.4	104.4	104.4	104.4	104.4	105.1	103.7
55°	86.9	86.9	86.9	86.9	87.6	87.6	87.6	87.6
57.5°	71.5	72.2	72.2	72.9	72.2	72.9	72.9	72.2
60°	59.6	58.9	59.6	59.6	60.3	60.3	60.3	60.3
62.5°	49.1	49.1	49.1	49.8	49.8	49.8	50.5	49.8
65°	40.7	40.7	41.4	41.4	41.4	42.1	42.1	42.1
67.5°	33.6	33.6	33.6	33.6	34.3	34.3	35.0	34.3
70°	28.0	28.0	28.0	28.0	28.0	28.7	28.7	28.7
72.5°	22.4	22.4	22.4	22.4	23.1	23.1	23.1	23.1
75°	15.4	15.4	15.4	16.1	15.4	15.4	15.4	15.4
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)