

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: P251756

Luminaire Tested: **LD4B15D010 EU4B10209024 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251756
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10209024 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2400K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 826.0 lumens
Efficiency: N/A
Efficacy: 57.4 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

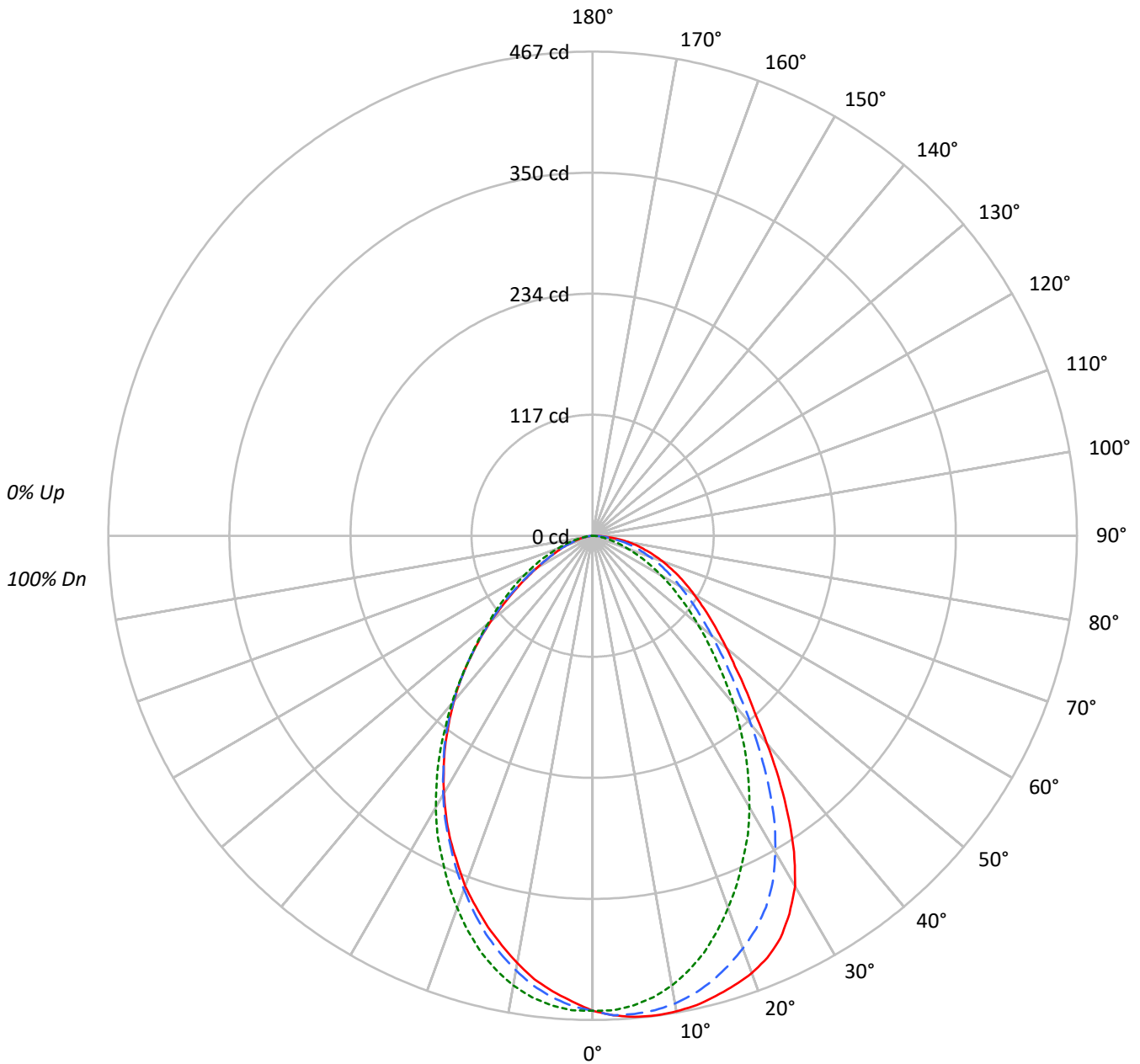
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251756

CATALOG NUMBER: LD4B15D010 EU4B10209024 4LBLWW1H

Luminous Intensity Polar Plot





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CATALOG NUMBER: LD4B15D010 EU4B10209024 4LBLWW1H

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	104	101	98	100	98	95	96	94	92	93	91	90	88																			
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76																			
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67																			
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	44646	44646	44646
5°	45569	44474	43163
10°	46096	43593	41425
15°	46362	41953	39390
20°	46557	39618	37274
25°	46078	36905	34862
30°	43934	34019	32275
35°	39071	30600	29518
40°	33269	26895	26450
45°	28654	23114	23017
50°	25532	19983	19346
55°	23465	17246	15445
60°	21987	14833	12085
65°	21123	12522	9432
70°	20288	10030	7637
75°	19656	7945	5837
80°	19756	5556	3536
85°	16549	3914	1565



TEST NUMBER: P251756

CATALOG NUMBER: LD4B15D010 EU4B10209024 4LBLWW1H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.9	5.2
10°-20°	117.9	14.3
20°-30°	164.9	20.0
30°-40°	169.5	20.5
40°-50°	137.6	16.7
50°-60°	96.8	11.7
60°-70°	59.6	7.2
70°-80°	29.8	3.6
80°-90°	7.1	0.9
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°	325.6	39.4
0°-40°	495.1	59.9
0°-60°	729.5	88.3
0°-90°	826.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	826.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	458	458	458	458	458	
5°	466	463	455	447	441	44
15°	460	445	416	398	390	130
25°	428	395	343	326	324	196
35°	328	297	257	250	248	204
45°	208	188	168	168	167	162
55°	138	121	102	93	91	124
65°	92	77	54	42	41	91
75°	52	41	21	16	16	56
85°	15	10	4	2	1	17
90°	0	0	0	0	0	



TEST NUMBER: P251756

CATALOG NUMBER: LD4B15D010 EU4B10209024 4LBLWW1H

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1
2.5°	463.0	463.7	461.6	463.7	460.9	462.3	463.0	461.6	460.2	463.0	463.0
5°	465.8	465.8	463.7	466.6	463.0	463.7	465.1	463.0	460.9	463.7	463.0
7.5°	466.6	466.6	463.7	466.6	463.0	463.7	464.4	462.3	460.2	462.3	461.6
10°	465.8	465.1	463.0	465.8	462.3	462.3	463.0	460.9	457.4	459.5	458.1
12.5°	463.7	463.7	460.9	463.7	458.8	458.8	459.5	456.7	453.9	453.9	452.5
15°	459.5	459.5	456.7	458.8	454.6	454.6	453.9	451.0	447.5	447.5	444.7
17.5°	454.6	454.6	451.8	453.9	448.9	448.9	448.2	444.0	439.1	438.4	434.8
20°	448.9	448.9	445.4	446.8	441.2	441.2	440.5	435.5	429.9	428.5	423.6
22.5°	440.5	440.5	437.0	437.7	432.0	431.3	430.6	425.0	419.3	417.2	410.9
25°	428.5	427.8	425.0	425.0	419.3	417.9	416.5	410.9	405.2	401.0	395.4
27.5°	410.9	411.6	408.1	408.8	401.7	400.3	399.6	392.6	386.2	382.0	376.3
30°	390.4	388.3	384.8	384.8	379.2	378.5	377.0	370.7	363.7	358.7	352.4
32.5°	361.5	360.8	357.3	357.3	351.0	351.0	348.2	341.8	335.5	332.6	326.3
35°	328.4	327.7	324.9	324.9	319.3	320.0	317.1	312.2	305.9	301.6	296.7
37.5°	294.6	293.9	291.1	291.8	286.8	286.8	284.7	279.8	274.9	272.7	266.4
40°	261.5	260.8	257.2	259.4	255.1	253.7	253.0	249.5	243.8	241.0	237.5
42.5°	231.2	231.9	228.3	229.8	226.2	224.8	224.1	221.3	217.1	214.2	210.7
45°	207.9	206.5	205.1	205.1	201.6	200.9	200.2	196.6	193.8	191.0	187.5
47.5°	186.1	184.6	183.2	183.9	181.1	180.4	179.0	176.2	172.7	171.3	167.7
50°	168.4	167.7	165.6	165.6	162.8	162.1	160.7	158.6	155.0	152.9	150.1
52.5°	152.2	152.2	150.1	149.4	147.3	146.6	145.9	143.1	140.2	137.4	134.6
55°	138.1	137.4	136.0	136.0	133.2	132.5	131.8	129.0	126.2	124.0	121.2
57.5°	124.7	124.7	123.3	123.3	121.2	119.8	119.8	117.0	113.5	112.1	108.5
60°	112.8	112.8	111.4	111.4	109.2	109.2	107.8	105.0	102.9	100.1	97.3
62.5°	101.5	102.2	100.8	100.1	98.0	97.3	97.3	95.1	91.6	89.5	86.7
65°	91.6	90.9	90.2	89.5	87.4	86.7	86.7	83.9	81.8	78.9	76.8
67.5°	81.0	81.0	79.6	79.6	78.2	77.5	76.1	74.0	71.9	69.8	67.7
70°	71.2	71.2	70.5	70.5	68.4	67.7	67.0	64.8	62.7	60.6	57.8
72.5°	62.0	61.3	60.6	60.6	59.2	58.5	57.8	55.7	53.6	51.4	49.3
75°	52.2	52.2	51.4	51.4	50.0	49.3	49.3	47.9	45.1	43.7	40.9
77.5°	43.7	43.7	43.0	43.0	41.6	41.6	40.9	38.8	37.4	35.2	33.8
80°	35.2	34.5	34.5	33.8	32.4	32.4	31.7	31.0	28.9	27.5	25.4
82.5°	24.7	24.7	24.7	24.0	23.3	23.3	22.6	21.1	19.7	19.0	16.9
85°	14.8	14.8	14.1	13.4	14.1	13.4	12.7	12.0	11.3	10.6	9.9
87.5°	6.3	6.3	5.6	5.6	5.6	5.6	5.6	4.9	4.2	4.2	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: P251756

CATALOG NUMBER: LD4B15D010 EU4B10209024 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1
2.5°	458.8	460.9	460.2	459.5	458.1	458.1	458.1	457.4	458.1	458.1	456.7
5°	458.8	460.2	459.5	458.1	456.7	456.7	456.0	454.6	454.6	454.6	451.8
7.5°	456.7	458.1	456.0	454.6	453.2	451.8	451.8	449.6	449.6	448.9	446.1
10°	452.5	453.2	450.3	448.9	446.8	446.1	444.7	441.9	441.2	440.5	437.7
12.5°	446.1	446.8	443.3	440.5	437.7	437.0	435.5	432.0	430.6	429.2	425.7
15°	437.0	437.0	432.7	429.2	426.4	425.7	422.2	418.6	417.2	415.8	410.9
17.5°	426.4	425.7	420.0	416.5	413.0	411.6	408.1	403.8	401.0	399.6	395.4
20°	415.1	413.0	406.6	403.1	398.9	396.8	393.3	387.6	384.8	382.0	377.8
22.5°	401.7	398.9	391.8	386.9	382.7	380.6	375.6	370.7	366.5	363.7	358.7
25°	385.5	382.0	374.2	367.9	364.4	362.2	357.3	351.7	347.4	343.2	339.0
27.5°	366.5	362.2	354.5	348.2	344.6	341.1	337.6	331.2	327.7	324.2	319.3
30°	343.2	338.3	331.2	325.6	321.4	318.6	314.3	308.7	304.5	302.3	297.4
32.5°	317.8	312.2	305.9	300.2	298.1	294.6	291.1	285.4	281.9	279.8	276.3
35°	289.7	285.4	278.4	274.2	270.6	269.2	266.4	260.8	259.4	257.2	253.0
37.5°	260.1	256.5	251.6	248.1	245.3	243.8	241.0	237.5	235.4	233.3	231.2
40°	232.6	229.8	225.5	222.7	219.2	217.1	217.1	212.8	211.4	211.4	209.3
42.5°	205.8	204.4	200.9	196.6	195.9	193.8	193.1	191.0	189.6	188.9	188.2
45°	183.2	181.1	177.6	175.5	173.4	173.4	171.3	169.1	168.4	167.7	167.0
47.5°	163.5	160.7	157.9	155.8	154.3	153.6	151.5	150.1	149.4	149.4	148.7
50°	145.9	143.8	141.0	138.8	137.4	136.0	134.6	133.2	132.5	131.8	131.8
52.5°	131.1	128.3	125.4	123.3	121.2	120.5	119.1	117.7	117.0	116.3	115.6
55°	117.7	115.6	112.1	109.9	107.8	107.8	105.7	103.6	102.2	101.5	100.8
57.5°	105.0	102.9	99.4	97.3	95.8	94.4	93.0	91.6	90.2	88.8	87.4
60°	93.7	91.6	88.1	85.3	84.6	83.2	81.8	78.9	77.5	76.1	74.7
62.5°	83.2	80.3	77.5	74.7	74.0	72.6	70.5	68.4	66.2	64.8	62.7
65°	73.3	71.2	67.7	65.5	63.4	62.7	60.6	57.8	55.7	54.3	52.2
67.5°	64.1	61.3	57.8	55.7	54.3	52.9	50.7	48.6	46.5	44.4	42.3
70°	55.0	52.9	49.3	47.2	45.8	44.4	42.3	39.5	37.4	35.2	33.8
72.5°	46.5	43.7	40.9	38.8	37.4	35.9	33.8	31.7	29.6	28.2	26.1
75°	38.8	35.9	33.8	31.0	30.3	28.9	26.8	24.7	22.6	21.1	19.7
77.5°	31.0	28.9	26.1	24.7	23.3	21.8	20.4	18.3	16.9	14.8	13.4
80°	23.3	21.1	19.0	17.6	16.2	15.5	14.1	12.7	11.3	9.9	9.2
82.5°	15.5	14.1	12.0	11.3	10.6	9.9	8.5	7.8	7.0	6.3	5.6
85°	8.5	7.8	7.0	5.6	5.6	4.9	4.2	4.2	3.5	3.5	2.8
87.5°	3.5	2.8	2.8	2.1	2.1	2.1	1.4	1.4	1.4	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: P251756

CATALOG NUMBER: LD4B15D010 EU4B10209024 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1
2.5°	457.4	454.6	454.6	454.6	452.5	453.2	453.9	454.6	453.9	451.8	453.9
5°	452.5	449.6	449.6	448.2	446.8	446.8	446.8	447.5	446.8	444.7	445.4
7.5°	446.1	442.6	441.9	440.5	439.1	438.4	438.4	438.4	437.7	434.8	436.2
10°	436.2	432.7	431.3	430.6	428.5	427.8	427.1	426.4	425.7	422.9	424.3
12.5°	424.3	421.4	418.6	417.9	415.8	414.4	413.7	413.7	412.3	409.5	410.9
15°	410.2	405.9	403.8	402.4	400.3	398.9	397.5	398.2	397.5	394.7	395.4
17.5°	393.3	389.0	386.9	386.2	383.4	382.0	381.3	381.3	380.6	377.8	378.5
20°	374.9	370.7	369.3	367.9	366.5	365.1	364.4	363.7	363.0	360.1	362.2
22.5°	356.6	351.7	349.6	349.6	346.7	346.0	345.3	346.0	345.3	342.5	343.9
25°	337.6	332.6	331.2	329.1	327.7	327.0	327.0	327.0	326.3	324.9	326.3
27.5°	316.4	312.9	310.8	310.1	308.7	308.0	307.3	308.0	308.0	305.9	307.3
30°	295.3	292.5	291.1	290.4	288.2	287.5	288.2	288.2	288.2	286.1	288.2
32.5°	274.2	272.0	271.3	269.2	267.8	267.8	267.8	268.5	267.8	266.4	268.5
35°	253.0	250.2	249.5	248.8	248.8	247.4	248.8	248.1	249.5	247.4	248.8
37.5°	230.5	229.0	228.3	228.3	226.9	227.6	227.6	227.6	229.0	226.9	228.3
40°	209.3	207.9	207.9	207.9	207.2	207.2	207.2	207.9	208.6	207.2	208.6
42.5°	188.2	187.5	187.5	186.8	186.1	186.8	187.5	187.5	188.2	186.8	187.5
45°	167.7	167.0	167.7	167.0	167.0	166.3	167.0	167.7	167.7	167.0	167.0
47.5°	148.7	148.7	148.0	148.0	148.0	148.0	148.0	148.0	148.0	146.6	148.0
50°	131.8	130.4	131.1	130.4	130.4	129.7	129.7	129.0	128.3	127.6	127.6
52.5°	115.6	114.2	114.2	113.5	112.8	112.8	112.1	111.4	110.6	109.2	109.2
55°	100.1	98.7	98.0	97.3	96.6	95.8	95.1	94.4	93.0	92.3	92.3
57.5°	86.0	84.6	83.2	83.2	81.8	81.0	79.6	78.2	77.5	76.1	76.1
60°	73.3	71.9	69.8	69.1	68.4	67.0	64.8	64.1	63.4	62.0	62.7
62.5°	61.3	59.2	57.1	56.4	55.7	54.3	52.9	51.4	50.7	51.4	51.4
65°	50.0	47.9	46.5	45.1	44.4	43.0	42.3	41.6	41.6	41.6	42.3
67.5°	40.2	38.1	36.6	35.9	34.5	33.8	33.8	33.8	33.8	33.8	33.8
70°	31.7	30.3	28.9	27.5	27.5	26.8	26.8	26.8	26.8	26.8	26.8
72.5°	24.0	22.6	21.8	21.8	21.1	21.1	21.1	21.1	20.4	20.4	21.1
75°	17.6	16.9	16.2	16.2	16.2	15.5	15.5	15.5	15.5	15.5	15.5
77.5°	12.7	12.0	12.0	11.3	11.3	11.3	11.3	11.3	11.3	10.6	10.6
80°	8.5	7.8	7.8	7.8	7.8	7.0	7.0	7.0	7.0	7.0	7.0
82.5°	4.9	4.9	4.9	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
85°	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
87.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	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: P251756

CATALOG NUMBER: LD4B15D010 EU4B10209024 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1
2.5°	449.6	452.5	453.2	451.0	451.8	450.3	451.0	449.6
5°	441.9	444.0	444.7	443.3	443.3	441.9	442.6	441.2
7.5°	432.0	434.1	434.8	433.4	433.4	432.0	432.0	431.3
10°	420.7	421.4	422.9	420.7	421.4	420.0	420.0	418.6
12.5°	406.6	408.1	409.5	407.4	407.4	406.6	406.6	404.5
15°	391.8	393.3	394.0	392.6	392.6	391.8	391.1	390.4
17.5°	376.3	377.0	378.5	376.3	377.8	376.3	376.3	374.9
20°	358.7	360.8	361.5	359.4	360.1	359.4	359.4	359.4
22.5°	341.8	343.2	343.9	342.5	343.2	341.8	342.5	341.1
25°	324.2	324.9	325.6	324.2	325.6	324.9	324.2	324.2
27.5°	305.9	306.6	307.3	305.9	307.3	306.6	307.3	305.9
30°	286.1	287.5	289.0	287.5	288.2	287.5	287.5	286.8
32.5°	266.4	267.8	269.2	267.8	269.2	267.8	268.5	267.1
35°	248.1	248.8	249.5	248.1	248.8	248.8	248.8	248.1
37.5°	227.6	229.0	229.0	228.3	229.8	229.0	229.0	227.6
40°	207.9	208.6	209.3	207.9	208.6	207.9	208.6	207.9
42.5°	187.5	188.9	189.6	188.2	188.2	188.2	187.5	188.2
45°	166.3	167.7	169.1	167.0	167.7	167.7	167.7	167.0
47.5°	147.3	147.3	148.0	147.3	148.0	146.6	148.0	147.3
50°	127.6	127.6	129.0	127.6	127.6	127.6	127.6	127.6
52.5°	108.5	109.2	109.2	107.8	108.5	107.8	108.5	107.8
55°	90.9	90.9	91.6	90.9	90.9	90.9	90.9	90.9
57.5°	75.4	76.1	76.1	75.4	76.1	75.4	75.4	75.4
60°	62.7	62.7	62.7	62.0	62.7	62.0	62.7	62.0
62.5°	50.7	51.4	51.4	50.7	51.4	50.7	50.7	50.7
65°	41.6	41.6	41.6	41.6	41.6	41.6	41.6	40.9
67.5°	33.1	33.1	33.8	33.1	33.8	33.8	33.8	33.8
70°	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8
72.5°	20.4	20.4	21.1	20.4	20.4	20.4	20.4	20.4
75°	15.5	15.5	15.5	15.5	15.5	14.8	14.8	15.5
77.5°	10.6	10.6	10.6	10.6	10.6	10.6	10.6	11.3
80°	7.0	7.0	7.0	7.0	6.3	6.3	7.0	6.3
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4
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)