

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P#

Luminaire Tested: **LD4C10D010 EX4C109030 4LBSQLWWLI**

Issue Date: 2/18/2022

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P219529)
Test Lab: INNOVATION CENTER
Issue Date: 2/18/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C10D010 EX4C109030 4LBSQLWWLI
Description: 4 INCH 1000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

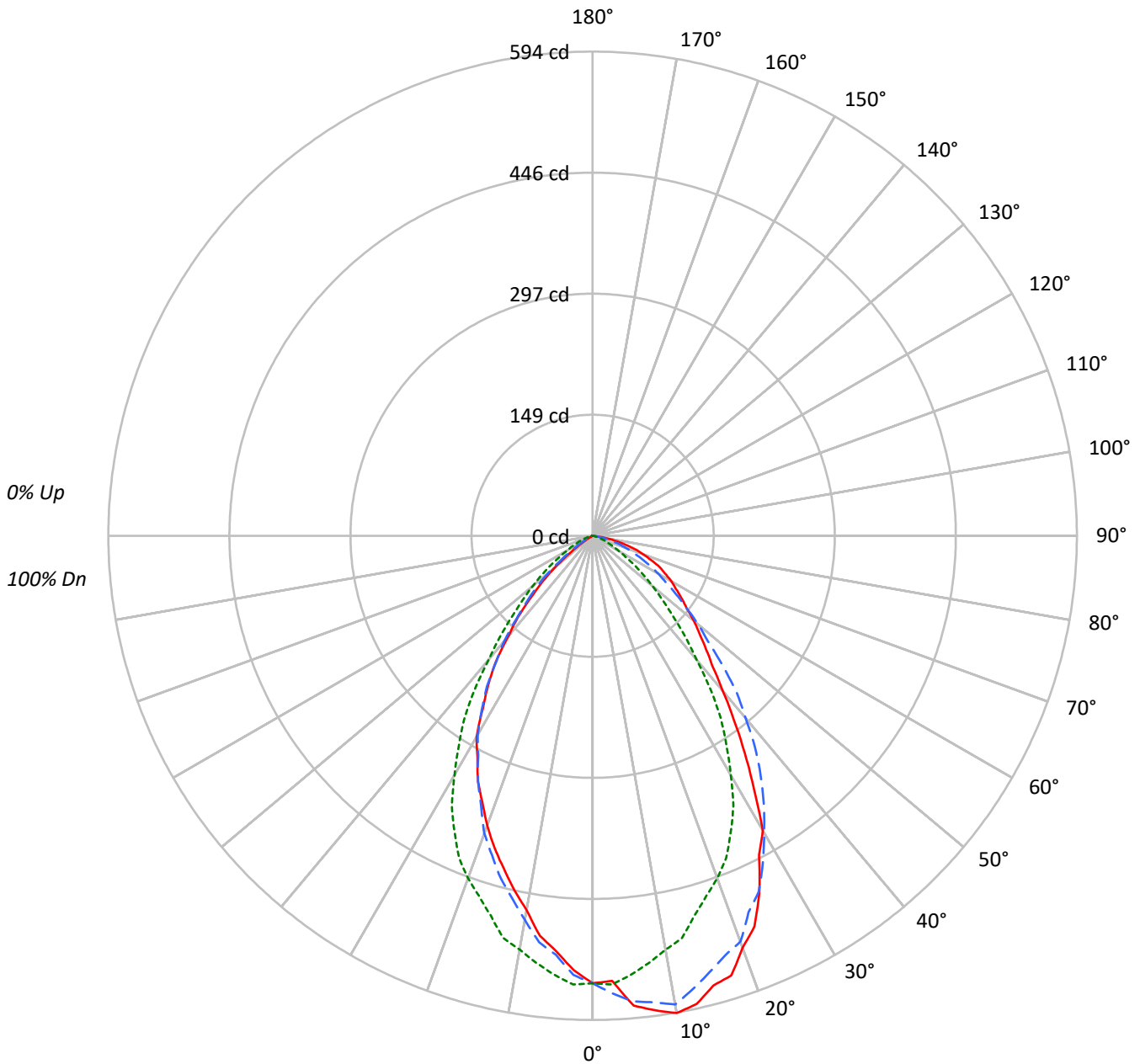
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 787.0 lumens
Efficiency: N/A
Efficacy: 80.3 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 9.8
Input Voltage (V):
Input Current (A_{in}): 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

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Luminous Intensity Polar Plot





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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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80																			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72																			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64																			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58																			
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53																			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48																			
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44																			
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41																			
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	52972	52972	52972
5°	56051	52351	49543
10°	58248	50507	45667
15°	57079	48198	42155
20°	55232	45899	38803
25°	51518	42681	35399
30°	46505	37770	31687
35°	38306	32334	26291
40°	31263	24965	20229
45°	26855	18954	14546
50°	24303	14426	9187
55°	22374	10413	3331
60°	21478	7121	502
65°	20731	4817	160
70°	18563	3329	197
75°	15210	1715	0
80°	9502	722	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.4	6.5
10°-20°	138.6	17.6
20°-30°	185.1	23.5
30°-40°	175.7	22.3
40°-50°	121.4	15.4
50°-60°	67.1	8.5
60°-70°	33.3	4.2
70°-80°	13.1	1.7
80°-90°	1.3	0.2
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°	375.1	47.7
0°-40°	550.8	70.0
0°-60°	739.3	93.9
0°-90°	787.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	787.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	549	549	549	549	549	
5°	579	573	540	516	512	55
15°	571	554	482	435	422	162
25°	484	482	401	332	332	221
35°	325	359	274	226	223	204
45°	197	226	139	114	107	154
55°	133	125	62	32	20	120
65°	91	66	21	1	1	88
75°	41	25	5	0	0	44
85°	0	1	0	0	0	4
90°	0	0	0	0	0	



TEST NUMBER: P#

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0
2.5°	546.4	561.5	562.9	561.5	563.5	562.9	566.2	562.9	566.8	560.9	562.2
5°	578.7	572.7	585.2	578.7	578.7	578.0	576.0	575.4	578.0	569.5	573.4
7.5°	587.2	595.8	607.0	593.2	593.8	593.8	589.9	588.5	588.5	572.7	577.3
10°	594.5	589.2	595.1	589.9	594.5	593.8	596.4	587.9	593.8	584.6	583.9
12.5°	588.5	586.6	594.5	585.9	583.3	583.9	580.6	578.7	580.6	570.1	569.5
15°	571.4	573.4	585.2	576.0	574.7	573.4	569.5	562.9	568.1	553.6	554.3
17.5°	565.5	562.2	564.2	556.3	558.3	556.9	556.3	550.4	549.0	539.8	539.8
20°	537.9	545.1	545.1	539.8	539.8	539.2	530.6	535.9	529.9	527.3	529.9
22.5°	518.7	519.4	519.4	514.8	515.5	512.8	508.2	504.9	508.2	504.9	499.7
25°	483.9	485.2	493.1	484.5	483.2	485.8	481.9	479.9	479.3	471.4	481.9
27.5°	441.7	454.9	454.2	450.9	454.9	449.6	447.7	448.3	450.3	449.6	452.3
30°	417.4	419.3	421.3	418.7	419.3	417.4	417.4	418.0	423.3	421.3	420.7
32.5°	368.0	374.6	379.9	379.9	380.5	382.5	381.8	395.6	398.9	392.4	391.1
35°	325.2	329.8	334.4	335.1	343.6	344.3	345.0	348.9	358.1	360.1	359.4
37.5°	284.4	289.0	290.3	296.2	300.9	305.5	310.7	316.0	323.9	330.5	327.2
40°	248.2	250.2	253.5	256.1	265.3	265.3	267.9	278.5	287.0	292.3	291.6
42.5°	217.9	218.6	221.2	225.8	234.4	232.4	234.4	241.6	254.1	254.8	262.0
45°	196.8	196.2	198.2	198.8	204.1	206.7	208.0	213.3	223.8	225.1	225.8
47.5°	177.8	177.1	180.4	181.7	183.7	186.3	186.3	187.0	190.9	194.2	191.6
50°	161.9	161.9	161.9	163.3	166.6	165.9	166.6	169.2	171.2	169.8	169.2
52.5°	144.8	147.5	149.4	150.1	150.8	150.8	151.4	150.1	149.4	147.5	143.5
55°	133.0	135.6	135.6	135.6	135.6	138.2	135.0	135.6	135.6	130.4	125.1
57.5°	121.1	123.8	125.7	123.1	125.7	123.1	121.8	121.1	119.8	114.5	106.6
60°	111.3	112.6	111.9	111.3	112.6	110.6	109.3	106.6	105.3	98.1	92.8
62.5°	100.1	100.7	101.4	100.1	98.8	98.1	95.5	91.5	88.9	82.9	78.3
65°	90.8	88.9	88.2	87.6	86.2	84.3	82.3	77.7	75.7	70.4	65.8
67.5°	77.0	76.4	77.7	75.7	72.4	72.4	70.4	66.5	61.9	58.6	54.0
70°	65.8	65.2	63.9	61.9	61.2	58.6	58.6	54.0	52.7	46.7	42.8
72.5°	54.0	54.0	52.0	50.0	48.1	46.7	46.1	42.8	40.8	37.5	34.2
75°	40.8	40.8	40.2	38.2	36.9	35.5	34.9	32.3	30.3	27.0	25.0
77.5°	29.0	29.0	26.3	25.0	25.7	24.3	23.0	22.4	21.7	19.8	17.1
80°	17.1	16.5	14.5	15.1	14.5	14.5	13.8	13.2	11.8	10.5	9.2
82.5°	4.6	5.3	5.3	5.3	5.9	4.6	4.6	4.6	5.3	5.3	3.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7
87.5°	0.7	1.3	2.6	2.6	2.6	2.6	2.6	2.0	2.0	2.0	1.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0
2.5°	555.6	555.0	555.6	551.0	561.5	553.6	552.3	551.0	555.6	551.0	544.4
5°	567.5	560.9	558.9	556.9	562.9	553.6	551.7	552.3	549.0	540.5	541.1
7.5°	571.4	565.5	559.6	547.1	552.3	550.4	545.1	541.1	535.9	528.6	527.3
10°	572.7	566.2	557.6	553.6	545.8	543.1	541.1	534.6	528.0	515.5	512.2
12.5°	568.8	560.9	550.4	547.1	541.1	532.6	528.0	521.4	515.5	505.6	498.3
15°	551.7	545.1	541.8	530.6	528.0	522.7	513.5	504.3	495.7	482.5	478.6
17.5°	531.9	529.3	526.0	517.4	516.8	511.5	503.0	495.0	483.9	463.5	456.9
20°	511.5	511.5	501.0	497.7	504.3	493.7	487.2	479.9	456.9	447.0	435.2
22.5°	496.4	489.1	483.2	477.9	478.6	472.0	462.8	448.3	439.7	427.9	414.1
25°	466.8	469.4	456.2	454.2	456.2	441.1	436.5	424.6	412.1	400.9	390.4
27.5°	448.3	441.1	432.5	425.3	425.3	419.3	406.2	403.6	384.5	373.9	360.7
30°	420.7	415.4	408.2	397.6	396.3	391.7	381.2	374.6	354.8	339.0	331.8
32.5°	385.8	383.8	377.9	366.0	362.1	356.8	343.6	332.5	323.2	305.5	296.9
35°	360.7	353.5	341.0	331.1	327.8	318.6	308.1	300.2	290.3	274.5	263.3
37.5°	323.2	316.0	304.1	292.3	292.3	283.1	268.6	260.7	246.9	237.6	228.4
40°	290.3	281.1	269.3	255.4	253.5	240.3	234.4	221.2	212.6	198.2	196.8
42.5°	253.5	244.9	234.4	223.8	215.9	209.4	194.2	184.3	175.1	167.9	165.9
45°	219.9	208.7	199.5	186.3	178.4	170.5	160.6	154.1	146.8	138.9	134.3
47.5°	190.9	181.7	168.5	156.7	148.8	144.8	133.6	126.4	120.5	115.2	111.9
50°	161.3	150.1	142.9	129.7	128.4	119.2	110.0	104.0	100.7	96.1	91.5
52.5°	138.9	128.4	118.5	108.6	103.3	100.1	91.5	85.6	81.0	77.7	75.1
55°	117.2	108.0	100.1	90.2	86.9	82.3	72.4	71.1	66.5	61.9	58.6
57.5°	100.7	92.2	82.9	76.4	70.4	67.2	59.2	54.0	51.4	47.4	44.1
60°	85.6	76.4	69.1	61.2	58.6	54.0	48.1	43.5	40.2	36.9	33.6
62.5°	71.8	63.9	56.0	49.4	45.4	42.8	38.2	34.2	31.0	28.3	25.7
65°	59.2	52.0	45.4	38.8	36.9	33.6	30.3	27.0	24.3	21.1	18.4
67.5°	48.7	42.1	35.5	31.0	29.0	27.6	23.7	20.4	18.4	16.5	13.8
70°	38.2	33.6	28.3	24.3	22.4	20.4	17.8	15.8	13.2	11.8	9.9
72.5°	29.6	25.7	21.1	17.8	16.5	15.1	12.5	10.5	9.2	7.9	6.6
75°	21.1	17.8	15.1	11.8	11.2	10.5	8.6	7.2	5.9	4.6	3.9
77.5°	14.5	11.8	9.2	7.9	7.2	5.9	5.3	3.9	3.3	2.6	2.0
80°	7.9	5.9	4.6	3.9	3.3	2.6	2.6	2.0	1.3	1.3	0.7
82.5°	2.6	2.0	1.3	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0
2.5°	548.4	541.1	543.1	543.1	541.8	541.8	540.5	538.5	539.2	535.2	526.7
5°	542.5	533.2	531.9	533.2	528.0	526.7	524.0	528.0	516.1	520.7	515.5
7.5°	525.4	516.8	514.8	519.4	512.8	508.9	508.2	513.5	503.0	497.7	491.8
10°	506.2	503.0	497.0	493.7	491.8	492.4	487.2	480.6	478.6	477.3	472.0
12.5°	489.1	481.9	476.6	472.7	471.4	471.4	462.8	461.5	455.6	454.2	446.4
15°	468.7	460.2	456.9	451.6	447.0	449.6	439.7	437.1	435.2	426.6	427.9
17.5°	450.9	441.7	433.8	430.5	426.6	422.6	413.4	415.4	410.8	410.8	398.9
20°	427.9	418.0	412.1	405.5	405.5	400.3	393.7	394.3	388.4	382.5	371.9
22.5°	403.6	393.0	385.8	383.1	376.6	375.2	367.4	365.4	357.5	358.1	348.9
25°	377.9	367.4	357.5	358.1	352.2	349.6	345.0	335.8	332.5	328.5	325.9
27.5°	347.6	340.3	331.8	331.1	319.9	320.6	314.7	312.1	304.1	306.1	300.2
30°	319.9	309.4	301.5	299.5	294.9	293.6	284.4	280.4	281.8	276.5	273.2
32.5°	291.6	275.8	272.5	268.6	266.0	262.7	256.1	258.7	252.8	254.1	248.8
35°	254.1	247.5	239.0	239.0	236.3	233.7	229.1	231.7	225.8	223.2	217.9
37.5°	222.5	216.6	208.0	210.7	206.1	202.1	198.2	198.8	193.5	192.9	187.6
40°	188.3	185.0	179.1	179.1	175.8	175.8	173.8	171.8	168.5	164.6	158.6
42.5°	156.0	153.4	150.8	151.4	146.8	150.8	145.5	148.8	138.2	137.6	133.6
45°	132.3	126.4	127.1	124.4	121.8	123.1	118.5	119.8	113.9	112.6	108.6
47.5°	107.3	105.3	101.4	100.1	100.1	98.1	96.1	95.5	92.8	89.5	84.3
50°	88.2	81.0	79.6	77.7	76.4	76.4	73.7	69.8	70.4	67.2	61.9
52.5°	69.1	63.2	60.6	59.9	57.3	56.0	52.7	50.0	48.1	46.7	43.5
55°	53.3	48.1	44.8	44.8	40.8	40.8	36.2	34.2	31.6	29.0	27.0
57.5°	40.2	37.5	34.2	31.6	30.3	27.0	24.3	21.1	19.1	15.1	12.5
60°	30.3	27.6	24.3	22.4	21.1	17.8	14.5	11.8	7.2	5.9	5.3
62.5°	22.4	19.8	16.5	15.1	13.8	11.2	7.9	3.9	2.0	2.0	2.0
65°	16.5	13.2	10.5	9.2	7.9	5.9	2.6	1.3	0.7	0.7	0.7
67.5°	11.2	8.6	5.9	5.3	3.9	2.0	0.7	0.7	0.7	0.7	0.7
70°	7.2	5.3	2.6	2.0	1.3	0.7	0.7	0.7	0.7	0.7	0.7
72.5°	4.6	2.6	1.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	2.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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: P#

CATALOG NUMBER: LD4C10D010 EX4C109030 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	549.0	549.0	549.0	549.0	549.0	549.0	549.0	549.0
2.5°	535.9	531.3	533.9	528.0	530.6	535.2	531.9	533.2
5°	517.4	514.8	511.5	503.0	509.5	514.8	512.2	511.5
7.5°	497.7	488.5	493.1	490.5	489.1	494.4	488.5	495.0
10°	477.3	470.7	470.1	465.4	465.4	469.4	470.1	466.1
12.5°	447.0	443.7	443.7	443.1	442.4	446.4	447.0	445.0
15°	425.3	424.0	420.7	420.0	416.1	422.0	422.6	422.0
17.5°	398.9	399.6	396.3	396.3	398.9	400.9	395.6	400.9
20°	381.2	377.9	376.6	370.6	373.9	377.2	377.2	377.9
22.5°	355.5	350.2	352.2	348.9	346.9	351.5	351.5	353.5
25°	326.5	326.5	327.8	325.9	327.2	329.8	327.8	332.5
27.5°	298.9	301.5	301.5	298.9	300.2	308.1	311.4	306.1
30°	273.2	273.9	275.8	274.5	278.5	281.1	280.4	284.4
32.5°	244.2	247.5	248.8	246.9	248.2	254.1	250.8	250.2
35°	221.9	215.9	215.3	215.9	218.6	219.9	218.6	223.2
37.5°	189.6	187.6	185.0	185.6	187.6	190.3	191.6	194.9
40°	158.6	156.0	156.0	155.4	153.4	160.6	160.6	160.6
42.5°	131.7	131.0	127.7	127.7	130.4	132.3	131.0	135.6
45°	108.0	105.3	103.3	103.3	105.3	105.3	107.3	106.6
47.5°	84.9	82.3	82.9	81.0	82.9	85.6	82.3	82.9
50°	63.9	63.9	62.5	63.9	63.2	63.9	62.5	61.2
52.5°	43.5	49.4	50.0	47.4	41.5	36.2	32.9	35.5
55°	25.0	22.4	22.4	21.7	20.4	19.8	17.8	19.8
57.5°	12.5	11.2	11.2	11.2	10.5	9.9	8.6	8.6
60°	5.3	4.6	4.6	3.9	3.3	2.6	2.0	2.6
62.5°	2.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
65°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
67.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
70°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)