

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 EX4C109035 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 EX4C109035 4LBSQLWWLI
Description: 4 INCH 1000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

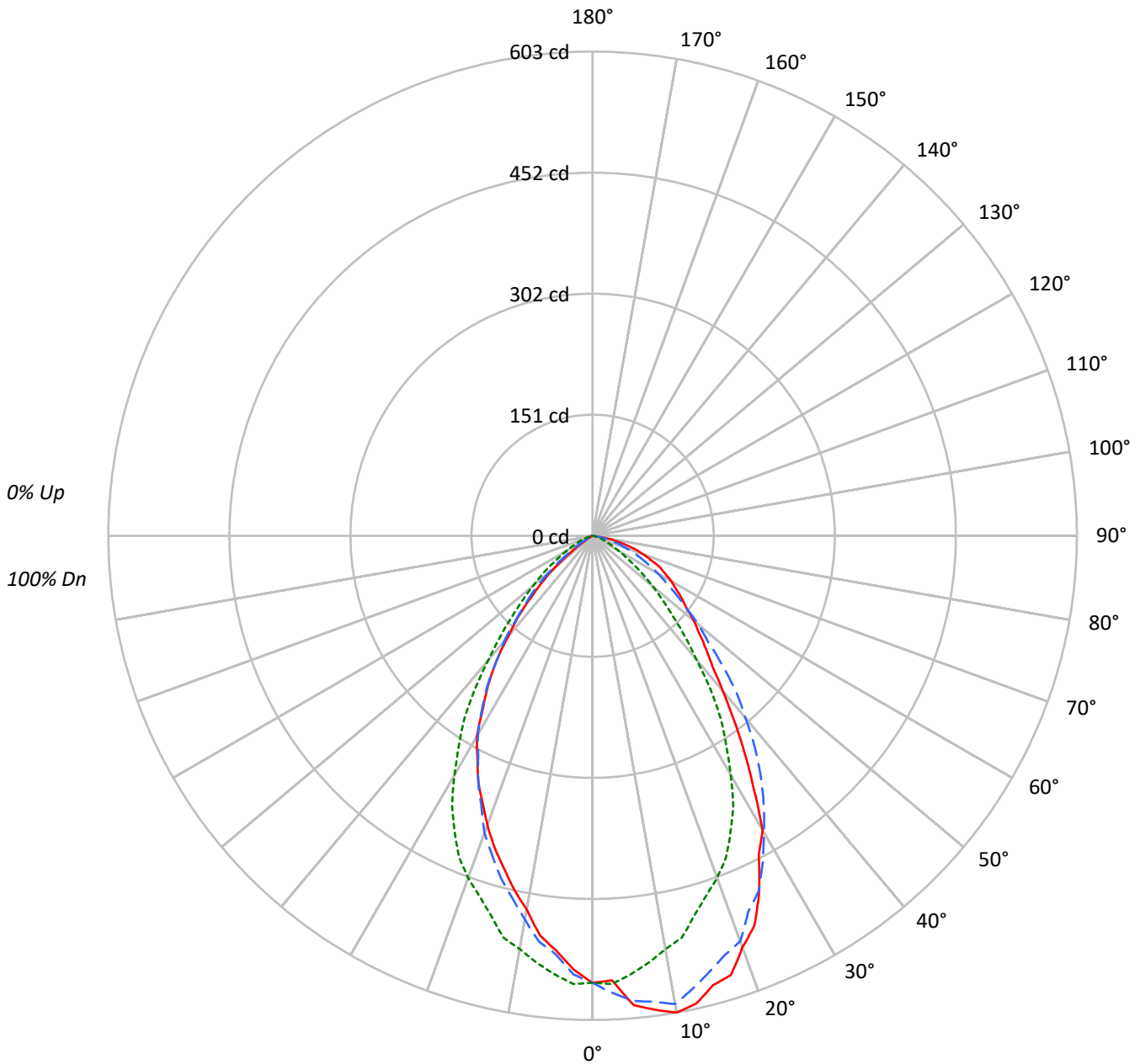
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 798.0 lumens
Efficiency: N/A
Efficacy: 81.4 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 (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

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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°	53715	53715	53715
5°	56836	53078	50240
10°	59061	51213	46304
15°	57878	48877	42744
20°	56002	46535	39347
25°	52231	43278	35889
30°	47151	38305	32132
35°	38848	32793	26656
40°	31703	25305	20518
45°	27237	19227	14751
50°	24648	14636	9322
55°	22676	10548	3364
60°	21768	7217	521
65°	21028	4886	160
70°	18817	3385	197
75°	15434	1752	0
80°	9668	722	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.2	6.5
10°-20°	140.5	17.6
20°-30°	187.7	23.5
30°-40°	178.1	22.3
40°-50°	123.1	15.4
50°-60°	68.0	8.5
60°-70°	33.8	4.2
70°-80°	13.3	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°	380.3	47.7
0°-40°	558.5	70.0
0°-60°	749.6	93.9
0°-90°	798.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	798.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	557	557	557	557	557	
5°	587	581	548	523	519	56
15°	579	562	489	441	428	164
25°	491	489	406	337	337	224
35°	330	364	278	229	226	207
45°	200	229	141	116	108	156
55°	135	127	63	32	20	121
65°	92	67	21	1	1	89
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°	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7
2.5°	554.0	569.4	570.7	569.4	571.4	570.7	574.1	570.7	574.7	568.7	570.1
5°	586.8	580.7	593.4	586.8	586.8	586.1	584.1	583.4	586.1	577.4	581.4
7.5°	595.4	604.1	615.5	601.4	602.1	602.1	598.1	596.8	596.8	580.7	585.4
10°	602.8	597.4	603.4	598.1	602.8	602.1	604.8	596.1	602.1	592.8	592.1
12.5°	596.8	594.8	602.8	594.1	591.4	592.1	588.8	586.8	588.8	578.1	577.4
15°	579.4	581.4	593.4	584.1	582.8	581.4	577.4	570.7	576.1	561.4	562.1
17.5°	573.4	570.1	572.1	564.1	566.1	564.7	564.1	558.1	556.7	547.4	547.4
20°	545.4	552.7	552.7	547.4	547.4	546.7	538.0	543.4	537.4	534.7	537.4
22.5°	526.0	526.7	526.7	522.0	522.7	520.0	515.3	512.0	515.3	512.0	506.6
25°	490.6	492.0	500.0	491.3	490.0	492.6	488.6	486.6	486.0	478.0	488.6
27.5°	447.9	461.2	460.6	457.2	461.2	455.9	453.9	454.6	456.6	455.9	458.6
30°	423.2	425.2	427.2	424.6	425.2	423.2	423.2	423.9	429.2	427.2	426.5
32.5°	373.1	379.8	385.2	385.2	385.8	387.8	387.2	401.2	404.5	397.9	396.5
35°	329.8	334.4	339.1	339.8	348.5	349.1	349.8	353.8	363.1	365.1	364.5
37.5°	288.4	293.0	294.4	300.4	305.1	309.7	315.1	320.4	328.4	335.1	331.8
40°	251.7	253.7	257.0	259.7	269.0	269.0	271.7	282.4	291.0	296.4	295.7
42.5°	221.0	221.6	224.3	229.0	237.6	235.6	237.6	245.0	257.7	258.3	265.7
45°	199.6	198.9	200.9	201.6	206.9	209.6	210.9	216.3	226.9	228.3	229.0
47.5°	180.2	179.6	182.9	184.2	186.2	188.9	188.9	189.6	193.6	196.9	194.3
50°	164.2	164.2	164.2	165.5	168.9	168.2	168.9	171.6	173.5	172.2	171.6
52.5°	146.8	149.5	151.5	152.2	152.9	152.9	153.5	152.2	151.5	149.5	145.5
55°	134.8	137.5	137.5	137.5	137.5	140.2	136.9	137.5	137.5	132.2	126.8
57.5°	122.8	125.5	127.5	124.8	127.5	124.8	123.5	122.8	121.5	116.1	108.1
60°	112.8	114.2	113.5	112.8	114.2	112.1	110.8	108.1	106.8	99.5	94.1
62.5°	101.5	102.1	102.8	101.5	100.1	99.5	96.8	92.8	90.1	84.1	79.4
65°	92.1	90.1	89.4	88.8	87.5	85.4	83.5	78.8	76.8	71.4	66.7
67.5°	78.1	77.4	78.8	76.8	73.4	73.4	71.4	67.4	62.7	59.4	54.7
70°	66.7	66.1	64.8	62.7	62.1	59.4	59.4	54.7	53.4	47.4	43.4
72.5°	54.7	54.7	52.7	50.7	48.7	47.4	46.7	43.4	41.4	38.1	34.7
75°	41.4	41.4	40.7	38.7	37.4	36.0	35.4	32.7	30.7	27.4	25.4
77.5°	29.4	29.4	26.7	25.4	26.0	24.7	23.4	22.7	22.0	20.0	17.4
80°	17.4	16.7	14.7	15.4	14.7	14.7	14.0	13.3	12.0	10.7	9.3
82.5°	4.7	5.3	5.3	5.3	6.0	4.7	4.7	4.7	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	2.7	2.7	2.7	2.7	2.7	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°	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7
2.5°	563.4	562.7	563.4	558.7	569.4	561.4	560.1	558.7	563.4	558.7	552.0
5°	575.4	568.7	566.7	564.7	570.7	561.4	559.4	560.1	556.7	548.0	548.7
7.5°	579.4	573.4	567.4	554.7	560.1	558.1	552.7	548.7	543.4	536.0	534.7
10°	580.7	574.1	565.4	561.4	553.4	550.7	548.7	542.0	535.4	522.7	519.3
12.5°	576.7	568.7	558.1	554.7	548.7	540.0	535.4	528.7	522.7	512.7	505.3
15°	559.4	552.7	549.4	538.0	535.4	530.0	520.7	511.3	502.6	489.3	485.3
17.5°	539.4	536.7	533.3	524.7	524.0	518.7	510.0	502.0	490.6	469.9	463.3
20°	518.7	518.7	508.0	504.7	511.3	500.6	494.0	486.6	463.3	453.2	441.2
22.5°	503.3	496.0	490.0	484.6	485.3	478.6	469.3	454.6	445.9	433.9	419.9
25°	473.3	475.9	462.6	460.6	462.6	447.2	442.6	430.5	417.9	406.5	395.8
27.5°	454.6	447.2	438.6	431.2	431.2	425.2	411.9	409.2	389.8	379.2	365.8
30°	426.5	421.2	413.9	403.2	401.9	397.2	386.5	379.8	359.8	343.8	336.4
32.5°	391.2	389.2	383.2	371.2	367.2	361.8	348.5	337.1	327.8	309.7	301.1
35°	365.8	358.5	345.8	335.8	332.4	323.1	312.4	304.4	294.4	278.4	267.0
37.5°	327.8	320.4	308.4	296.4	296.4	287.0	272.3	264.3	250.3	241.0	231.6
40°	294.4	285.0	273.0	259.0	257.0	243.6	237.6	224.3	215.6	200.9	199.6
42.5°	257.0	248.3	237.6	226.9	218.9	212.3	196.9	186.9	177.6	170.2	168.2
45°	222.9	211.6	202.3	188.9	180.9	172.9	162.9	156.2	148.9	140.9	136.2
47.5°	193.6	184.2	170.9	158.9	150.9	146.8	135.5	128.2	122.2	116.8	113.5
50°	163.6	152.2	144.9	131.5	130.2	120.8	111.5	105.5	102.1	97.5	92.8
52.5°	140.9	130.2	120.1	110.2	104.8	101.5	92.8	86.8	82.1	78.8	76.1
55°	118.8	109.5	101.5	91.5	88.1	83.5	73.4	72.1	67.4	62.7	59.4
57.5°	102.1	93.4	84.1	77.4	71.4	68.1	60.1	54.7	52.1	48.1	44.7
60°	86.8	77.4	70.1	62.1	59.4	54.7	48.7	44.1	40.7	37.4	34.1
62.5°	72.8	64.8	56.8	50.1	46.1	43.4	38.7	34.7	31.4	28.7	26.0
65°	60.1	52.7	46.1	39.4	37.4	34.1	30.7	27.4	24.7	21.4	18.7
67.5°	49.4	42.7	36.0	31.4	29.4	28.0	24.0	20.7	18.7	16.7	14.0
70°	38.7	34.1	28.7	24.7	22.7	20.7	18.0	16.0	13.3	12.0	10.0
72.5°	30.0	26.0	21.4	18.0	16.7	15.4	12.7	10.7	9.3	8.0	6.7
75°	21.4	18.0	15.4	12.0	11.4	10.7	8.7	7.3	6.0	4.7	4.0
77.5°	14.7	12.0	9.3	8.0	7.3	6.0	5.3	4.0	3.3	2.7	2.0
80°	8.0	6.0	4.7	4.0	3.3	2.7	2.7	2.0	1.3	1.3	0.7
82.5°	2.7	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°	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7
2.5°	556.0	548.7	550.7	550.7	549.4	549.4	548.0	546.0	546.7	542.7	534.0
5°	550.0	540.7	539.4	540.7	535.4	534.0	531.4	535.4	523.3	528.0	522.7
7.5°	532.7	524.0	522.0	526.7	520.0	516.0	515.3	520.7	510.0	504.7	498.6
10°	513.3	510.0	504.0	500.6	498.6	499.3	494.0	487.3	485.3	483.9	478.6
12.5°	496.0	488.6	483.3	479.3	478.0	478.0	469.3	467.9	461.9	460.6	452.6
15°	475.3	466.6	463.3	457.9	453.2	455.9	445.9	443.2	441.2	432.6	433.9
17.5°	457.2	447.9	439.9	436.6	432.6	428.6	419.2	421.2	416.5	416.5	404.5
20°	433.9	423.9	417.9	411.2	411.2	405.9	399.2	399.8	393.8	387.8	377.1
22.5°	409.2	398.5	391.2	388.5	381.8	380.5	372.5	370.5	362.5	363.1	353.8
25°	383.2	372.5	362.5	363.1	357.1	354.5	349.8	340.5	337.1	333.1	330.4
27.5°	352.5	345.1	336.4	335.8	324.4	325.1	319.1	316.4	308.4	310.4	304.4
30°	324.4	313.7	305.7	303.7	299.1	297.7	288.4	284.4	285.7	280.4	277.0
32.5°	295.7	279.7	276.4	272.3	269.7	266.3	259.7	262.3	256.3	257.7	252.3
35°	257.7	251.0	242.3	242.3	239.6	237.0	232.3	235.0	229.0	226.3	221.0
37.5°	225.6	219.6	210.9	213.6	208.9	204.9	200.9	201.6	196.2	195.6	190.2
40°	190.9	187.6	181.6	181.6	178.2	178.2	176.2	174.2	170.9	166.9	160.9
42.5°	158.2	155.5	152.9	153.5	148.9	152.9	147.5	150.9	140.2	139.5	135.5
45°	134.2	128.2	128.8	126.2	123.5	124.8	120.1	121.5	115.5	114.2	110.2
47.5°	108.8	106.8	102.8	101.5	101.5	99.5	97.5	96.8	94.1	90.8	85.4
50°	89.4	82.1	80.8	78.8	77.4	77.4	74.8	70.8	71.4	68.1	62.7
52.5°	70.1	64.1	61.4	60.8	58.1	56.8	53.4	50.7	48.7	47.4	44.1
55°	54.1	48.7	45.4	45.4	41.4	41.4	36.7	34.7	32.0	29.4	27.4
57.5°	40.7	38.1	34.7	32.0	30.7	27.4	24.7	21.4	19.4	15.4	12.7
60°	30.7	28.0	24.7	22.7	21.4	18.0	14.7	12.0	7.3	6.0	5.3
62.5°	22.7	20.0	16.7	15.4	14.0	11.4	8.0	4.0	2.0	2.0	2.0
65°	16.7	13.3	10.7	9.3	8.0	6.0	2.7	1.3	0.7	0.7	0.7
67.5°	11.4	8.7	6.0	5.3	4.0	2.0	0.7	0.7	0.7	0.7	0.7
70°	7.3	5.3	2.7	2.0	1.3	0.7	0.7	0.7	0.7	0.7	0.7
72.5°	4.7	2.7	1.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	2.7	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 EX4C109035 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	556.7	556.7	556.7	556.7	556.7	556.7	556.7	556.7
2.5°	543.4	538.7	541.4	535.4	538.0	542.7	539.4	540.7
5°	524.7	522.0	518.7	510.0	516.7	522.0	519.3	518.7
7.5°	504.7	495.3	500.0	497.3	496.0	501.3	495.3	502.0
10°	483.9	477.3	476.6	471.9	471.9	475.9	476.6	472.6
12.5°	453.2	449.9	449.9	449.2	448.6	452.6	453.2	451.3
15°	431.2	429.9	426.5	425.9	421.9	427.9	428.6	427.9
17.5°	404.5	405.2	401.9	401.9	404.5	406.5	401.2	406.5
20°	386.5	383.2	381.8	375.8	379.2	382.5	382.5	383.2
22.5°	360.5	355.1	357.1	353.8	351.8	356.5	356.5	358.5
25°	331.1	331.1	332.4	330.4	331.8	334.4	332.4	337.1
27.5°	303.1	305.7	305.7	303.1	304.4	312.4	315.7	310.4
30°	277.0	277.7	279.7	278.4	282.4	285.0	284.4	288.4
32.5°	247.7	251.0	252.3	250.3	251.7	257.7	254.3	253.7
35°	225.0	218.9	218.3	218.9	221.6	222.9	221.6	226.3
37.5°	192.2	190.2	187.6	188.2	190.2	192.9	194.3	197.6
40°	160.9	158.2	158.2	157.5	155.5	162.9	162.9	162.9
42.5°	133.5	132.8	129.5	129.5	132.2	134.2	132.8	137.5
45°	109.5	106.8	104.8	104.8	106.8	106.8	108.8	108.1
47.5°	86.1	83.5	84.1	82.1	84.1	86.8	83.5	84.1
50°	64.8	64.8	63.4	64.8	64.1	64.8	63.4	62.1
52.5°	44.1	50.1	50.7	48.1	42.1	36.7	33.4	36.0
55°	25.4	22.7	22.7	22.0	20.7	20.0	18.0	20.0
57.5°	12.7	11.4	11.4	11.4	10.7	10.0	8.7	8.7
60°	5.3	4.7	4.7	4.0	3.3	2.7	2.0	2.7
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)