

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 4LBSQLWWH**

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

Luminaire Equipment: Sample No. Condition Description

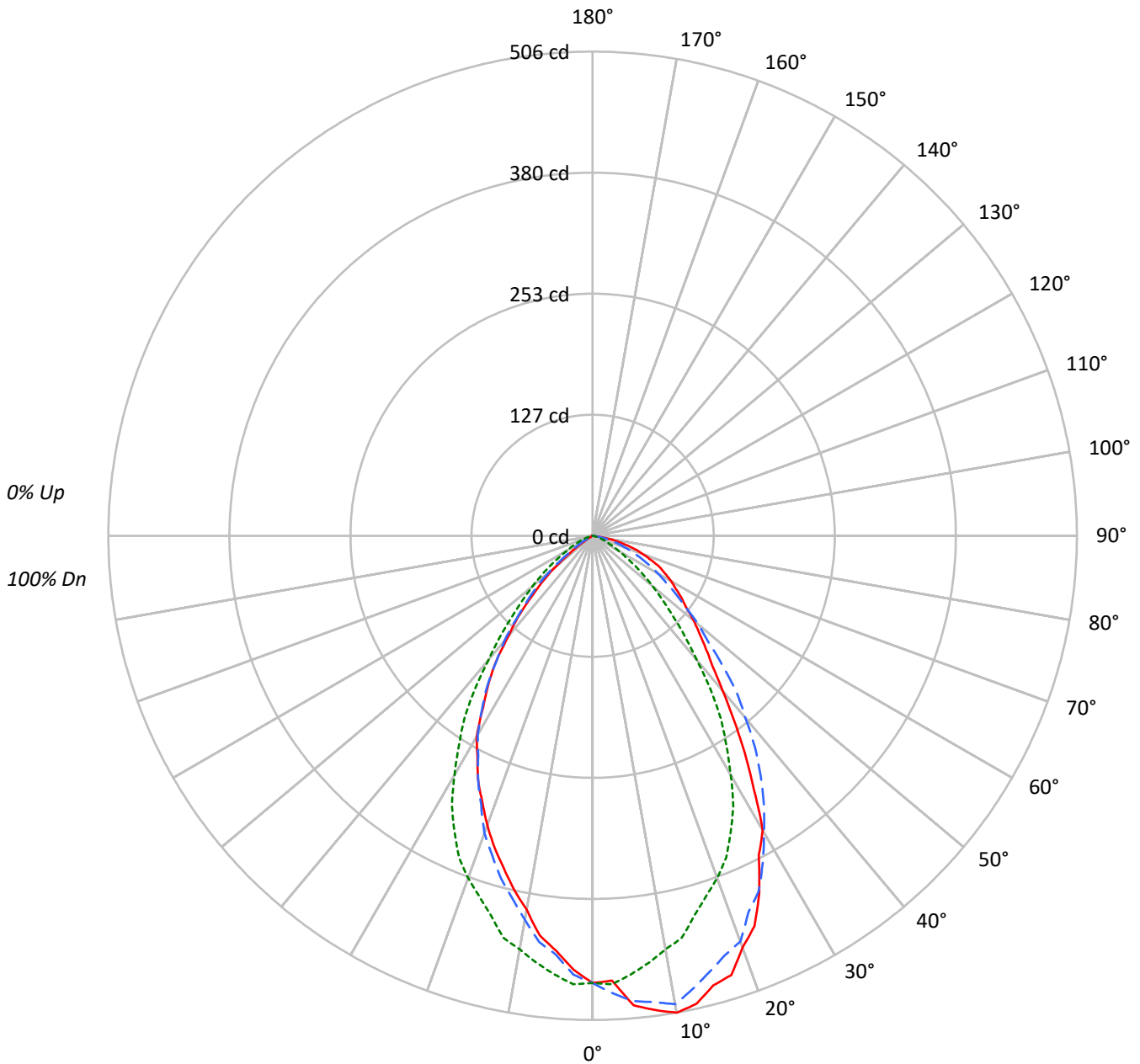
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 670.0 lumens
Efficiency: N/A
Efficacy: 68.4 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 (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°	45099	45099	45099
5°	47712	44564	42181
10°	49586	42992	38877
15°	48598	41036	35881
20°	47018	39070	33033
25°	43852	36336	30129
30°	39586	32155	26974
35°	32616	27528	22380
40°	26615	21249	17231
45°	22870	16143	12390
50°	20700	12279	7821
55°	19043	8865	2826
60°	18275	6060	425
65°	17649	4087	137
70°	15798	2849	169
75°	12974	1454	0
80°	8113	611	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.8	6.5
10°-20°	118.0	17.6
20°-30°	157.6	23.5
30°-40°	149.6	22.3
40°-50°	103.4	15.4
50°-60°	57.1	8.5
60°-70°	28.4	4.2
70°-80°	11.2	1.7
80°-90°	1.1	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°	319.3	47.7
0°-40°	468.9	70.0
0°-60°	629.4	93.9
0°-90°	670.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	670.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	467	467	467	467	467	
5°	493	488	460	439	436	47
15°	486	472	411	370	359	138
25°	412	410	341	283	283	188
35°	277	306	234	192	190	173
45°	168	192	118	97	91	131
55°	113	106	53	27	17	102
65°	77	56	18	1	1	75
75°	35	21	4	0	0	37
85°	0	1	0	0	0	3
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°	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4
2.5°	465.2	478.1	479.2	478.1	479.7	479.2	482.0	479.2	482.6	477.5	478.6
5°	492.6	487.6	498.2	492.6	492.6	492.1	490.4	489.8	492.1	484.8	488.2
7.5°	499.9	507.2	516.7	505.0	505.5	505.5	502.2	501.0	501.0	487.6	491.5
10°	506.1	501.6	506.6	502.2	506.1	505.5	507.8	500.5	505.5	497.7	497.1
12.5°	501.0	499.4	506.1	498.8	496.6	497.1	494.3	492.6	494.3	485.3	484.8
15°	486.5	488.2	498.2	490.4	489.3	488.2	484.8	479.2	483.7	471.3	471.9
17.5°	481.4	478.6	480.3	473.6	475.3	474.1	473.6	468.5	467.4	459.6	459.6
20°	457.9	464.0	464.0	459.6	459.6	459.0	451.7	456.2	451.2	448.9	451.2
22.5°	441.6	442.2	442.2	438.3	438.8	436.6	432.7	429.9	432.7	429.9	425.4
25°	411.9	413.1	419.8	412.5	411.4	413.6	410.3	408.6	408.0	401.3	410.3
27.5°	376.1	387.3	386.7	383.9	387.3	382.8	381.1	381.7	383.4	382.8	385.0
30°	355.3	357.0	358.7	356.5	357.0	355.3	355.3	355.9	360.4	358.7	358.1
32.5°	313.3	318.9	323.4	323.4	323.9	325.6	325.1	336.8	339.6	334.0	332.9
35°	276.9	280.8	284.7	285.3	292.6	293.1	293.7	297.0	304.9	306.6	306.0
37.5°	242.1	246.0	247.2	252.2	256.1	260.0	264.5	269.0	275.7	281.3	278.6
40°	211.3	213.0	215.8	218.0	225.9	225.9	228.1	237.1	244.4	248.8	248.3
42.5°	185.5	186.1	188.3	192.2	199.5	197.8	199.5	205.7	216.3	216.9	223.1
45°	167.6	167.0	168.7	169.2	173.7	176.0	177.1	181.6	190.5	191.7	192.2
47.5°	151.3	150.8	153.6	154.7	156.4	158.6	158.6	159.2	162.5	165.3	163.1
50°	137.9	137.9	137.9	139.0	141.8	141.2	141.8	144.0	145.7	144.6	144.0
52.5°	123.3	125.5	127.2	127.8	128.3	128.3	128.9	127.8	127.2	125.5	122.2
55°	113.2	115.5	115.5	115.5	115.5	117.7	114.9	115.5	115.5	111.0	106.5
57.5°	103.1	105.4	107.0	104.8	107.0	104.8	103.7	103.1	102.0	97.5	90.8
60°	94.7	95.8	95.3	94.7	95.8	94.2	93.0	90.8	89.7	83.5	79.0
62.5°	85.2	85.7	86.3	85.2	84.1	83.5	81.3	77.9	75.7	70.6	66.7
65°	77.3	75.7	75.1	74.5	73.4	71.7	70.1	66.1	64.4	60.0	56.0
67.5°	65.6	65.0	66.1	64.4	61.7	61.7	60.0	56.6	52.7	49.9	46.0
70°	56.0	55.5	54.4	52.7	52.1	49.9	49.9	46.0	44.8	39.8	36.4
72.5°	46.0	46.0	44.3	42.6	40.9	39.8	39.2	36.4	34.8	31.9	29.1
75°	34.8	34.8	34.2	32.5	31.4	30.3	29.7	27.5	25.8	23.0	21.3
77.5°	24.7	24.7	22.4	21.3	21.8	20.7	19.6	19.1	18.5	16.8	14.6
80°	14.6	14.0	12.3	12.9	12.3	12.3	11.8	11.2	10.1	9.0	7.8
82.5°	3.9	4.5	4.5	4.5	5.1	3.9	3.9	3.9	4.5	4.5	2.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
87.5°	0.6	1.1	2.2	2.2	2.2	2.2	2.2	1.7	1.7	1.7	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4
2.5°	473.0	472.5	473.0	469.1	478.1	471.3	470.2	469.1	473.0	469.1	463.5
5°	483.1	477.5	475.8	474.1	479.2	471.3	469.7	470.2	467.4	460.1	460.7
7.5°	486.5	481.4	476.4	465.7	470.2	468.5	464.0	460.7	456.2	450.0	448.9
10°	487.6	482.0	474.7	471.3	464.6	462.4	460.7	455.1	449.5	438.8	436.0
12.5°	484.2	477.5	468.5	465.7	460.7	453.4	449.5	443.9	438.8	430.4	424.3
15°	469.7	464.0	461.3	451.7	449.5	445.0	437.2	429.3	422.0	410.8	407.4
17.5°	452.8	450.6	447.8	440.5	440.0	435.5	428.2	421.5	411.9	394.6	389.0
20°	435.5	435.5	426.5	423.7	429.3	420.3	414.7	408.6	389.0	380.5	370.5
22.5°	422.6	416.4	411.4	406.9	407.4	401.8	394.0	381.7	374.4	364.3	352.5
25°	397.4	399.6	388.4	386.7	388.4	375.5	371.6	361.5	350.8	341.3	332.3
27.5°	381.7	375.5	368.2	362.1	362.1	357.0	345.8	343.6	327.3	318.3	307.1
30°	358.1	353.6	347.5	338.5	337.4	333.5	324.5	318.9	302.1	288.6	282.5
32.5°	328.4	326.7	321.7	311.6	308.3	303.8	292.6	283.0	275.2	260.0	252.8
35°	307.1	301.0	290.3	281.9	279.1	271.3	262.3	255.6	247.2	233.7	224.2
37.5°	275.2	269.0	258.9	248.8	248.8	241.0	228.7	221.9	210.2	202.3	194.5
40°	247.2	239.3	229.2	217.5	215.8	204.6	199.5	188.3	181.0	168.7	167.6
42.5°	215.8	208.5	199.5	190.5	183.8	178.2	165.3	156.9	149.1	142.9	141.2
45°	187.2	177.7	169.8	158.6	151.9	145.2	136.8	131.2	125.0	118.3	114.3
47.5°	162.5	154.7	143.5	133.4	126.7	123.3	113.8	107.6	102.6	98.1	95.3
50°	137.3	127.8	121.6	110.4	109.3	101.4	93.6	88.6	85.7	81.8	77.9
52.5°	118.3	109.3	100.9	92.5	88.0	85.2	77.9	72.9	68.9	66.1	63.9
55°	99.8	91.9	85.2	76.8	74.0	70.1	61.7	60.5	56.6	52.7	49.9
57.5°	85.7	78.5	70.6	65.0	60.0	57.2	50.4	46.0	43.7	40.4	37.5
60°	72.9	65.0	58.8	52.1	49.9	46.0	40.9	37.0	34.2	31.4	28.6
62.5°	61.1	54.4	47.6	42.0	38.7	36.4	32.5	29.1	26.3	24.1	21.8
65°	50.4	44.3	38.7	33.1	31.4	28.6	25.8	23.0	20.7	17.9	15.7
67.5°	41.5	35.9	30.3	26.3	24.7	23.5	20.2	17.4	15.7	14.0	11.8
70°	32.5	28.6	24.1	20.7	19.1	17.4	15.1	13.5	11.2	10.1	8.4
72.5°	25.2	21.8	17.9	15.1	14.0	12.9	10.6	9.0	7.8	6.7	5.6
75°	17.9	15.1	12.9	10.1	9.5	9.0	7.3	6.2	5.1	3.9	3.4
77.5°	12.3	10.1	7.8	6.7	6.2	5.1	4.5	3.4	2.8	2.2	1.7
80°	6.7	5.1	3.9	3.4	2.8	2.2	2.2	1.7	1.1	1.1	0.6
82.5°	2.2	1.7	1.1	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.6
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°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	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°	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4
2.5°	466.9	460.7	462.4	462.4	461.3	461.3	460.1	458.4	459.0	455.6	448.4
5°	461.8	454.0	452.8	454.0	449.5	448.4	446.1	449.5	439.4	443.3	438.8
7.5°	447.3	440.0	438.3	442.2	436.6	433.2	432.7	437.2	428.2	423.7	418.7
10°	431.0	428.2	423.1	420.3	418.7	419.2	414.7	409.1	407.4	406.3	401.8
12.5°	416.4	410.3	405.8	402.4	401.3	401.3	394.0	392.9	387.8	386.7	380.0
15°	399.0	391.8	389.0	384.5	380.5	382.8	374.4	372.1	370.5	363.2	364.3
17.5°	383.9	376.1	369.3	366.5	363.2	359.8	352.0	353.6	349.7	349.7	339.6
20°	364.3	355.9	350.8	345.2	345.2	340.8	335.2	335.7	330.7	325.6	316.6
22.5°	343.6	334.6	328.4	326.2	320.6	319.5	312.7	311.0	304.3	304.9	297.0
25°	321.7	312.7	304.3	304.9	299.9	297.6	293.7	285.8	283.0	279.7	277.4
27.5°	295.9	289.7	282.5	281.9	272.4	272.9	267.9	265.7	258.9	260.6	255.6
30°	272.4	263.4	256.7	255.0	251.1	250.0	242.1	238.7	239.9	235.4	232.6
32.5°	248.3	234.8	232.0	228.7	226.4	223.6	218.0	220.3	215.2	216.3	211.8
35°	216.3	210.7	203.4	203.4	201.2	199.0	195.0	197.3	192.2	190.0	185.5
37.5°	189.4	184.4	177.1	179.3	175.4	172.1	168.7	169.2	164.8	164.2	159.7
40°	160.3	157.5	152.5	152.5	149.6	149.6	147.9	146.3	143.5	140.1	135.1
42.5°	132.8	130.6	128.3	128.9	125.0	128.3	123.9	126.7	117.7	117.1	113.8
45°	112.6	107.6	108.2	105.9	103.7	104.8	100.9	102.0	97.0	95.8	92.5
47.5°	91.4	89.7	86.3	85.2	85.2	83.5	81.8	81.3	79.0	76.2	71.7
50°	75.1	68.9	67.8	66.1	65.0	65.0	62.8	59.4	60.0	57.2	52.7
52.5°	58.8	53.8	51.6	51.0	48.8	47.6	44.8	42.6	40.9	39.8	37.0
55°	45.4	40.9	38.1	38.1	34.8	34.8	30.8	29.1	26.9	24.7	23.0
57.5°	34.2	31.9	29.1	26.9	25.8	23.0	20.7	17.9	16.2	12.9	10.6
60°	25.8	23.5	20.7	19.1	17.9	15.1	12.3	10.1	6.2	5.1	4.5
62.5°	19.1	16.8	14.0	12.9	11.8	9.5	6.7	3.4	1.7	1.7	1.7
65°	14.0	11.2	9.0	7.8	6.7	5.1	2.2	1.1	0.6	0.6	0.6
67.5°	9.5	7.3	5.1	4.5	3.4	1.7	0.6	0.6	0.6	0.6	0.6
70°	6.2	4.5	2.2	1.7	1.1	0.6	0.6	0.6	0.6	0.6	0.6
72.5°	3.9	2.2	1.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	2.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	1.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.6	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	0.6	0.6	0.6
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: P#

CATALOG NUMBER: LD4C10D010 EX4C109035 4LBSQLWWH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	467.4	467.4	467.4	467.4	467.4	467.4	467.4	467.4
2.5°	456.2	452.3	454.5	449.5	451.7	455.6	452.8	454.0
5°	440.5	438.3	435.5	428.2	433.8	438.3	436.0	435.5
7.5°	423.7	415.9	419.8	417.5	416.4	420.9	415.9	421.5
10°	406.3	400.7	400.2	396.2	396.2	399.6	400.2	396.8
12.5°	380.5	377.8	377.8	377.2	376.6	380.0	380.5	378.9
15°	362.1	360.9	358.1	357.6	354.2	359.2	359.8	359.2
17.5°	339.6	340.2	337.4	337.4	339.6	341.3	336.8	341.3
20°	324.5	321.7	320.6	315.5	318.3	321.1	321.1	321.7
22.5°	302.6	298.2	299.9	297.0	295.3	299.3	299.3	301.0
25°	278.0	278.0	279.1	277.4	278.6	280.8	279.1	283.0
27.5°	254.4	256.7	256.7	254.4	255.6	262.3	265.1	260.6
30°	232.6	233.1	234.8	233.7	237.1	239.3	238.7	242.1
32.5°	207.9	210.7	211.8	210.2	211.3	216.3	213.5	213.0
35°	188.9	183.8	183.3	183.8	186.1	187.2	186.1	190.0
37.5°	161.4	159.7	157.5	158.0	159.7	162.0	163.1	165.9
40°	135.1	132.8	132.8	132.3	130.6	136.8	136.8	136.8
42.5°	112.1	111.5	108.7	108.7	111.0	112.6	111.5	115.5
45°	91.9	89.7	88.0	88.0	89.7	89.7	91.4	90.8
47.5°	72.3	70.1	70.6	68.9	70.6	72.9	70.1	70.6
50°	54.4	54.4	53.2	54.4	53.8	54.4	53.2	52.1
52.5°	37.0	42.0	42.6	40.4	35.3	30.8	28.0	30.3
55°	21.3	19.1	19.1	18.5	17.4	16.8	15.1	16.8
57.5°	10.6	9.5	9.5	9.5	9.0	8.4	7.3	7.3
60°	4.5	3.9	3.9	3.4	2.8	2.2	1.7	2.2
62.5°	1.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1
65°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
67.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
70°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)