

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: P880552

Luminaire Tested: **LD4C20D010 EU4209027 4LBDWNH**

Issue Date: 10/4/2024

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: P880552
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251940)
Test Lab: INNOVATION CENTER
Issue Date: 10/4/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C20D010 EU4209027 4LBDWNH
Description: 4 INCH 2000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

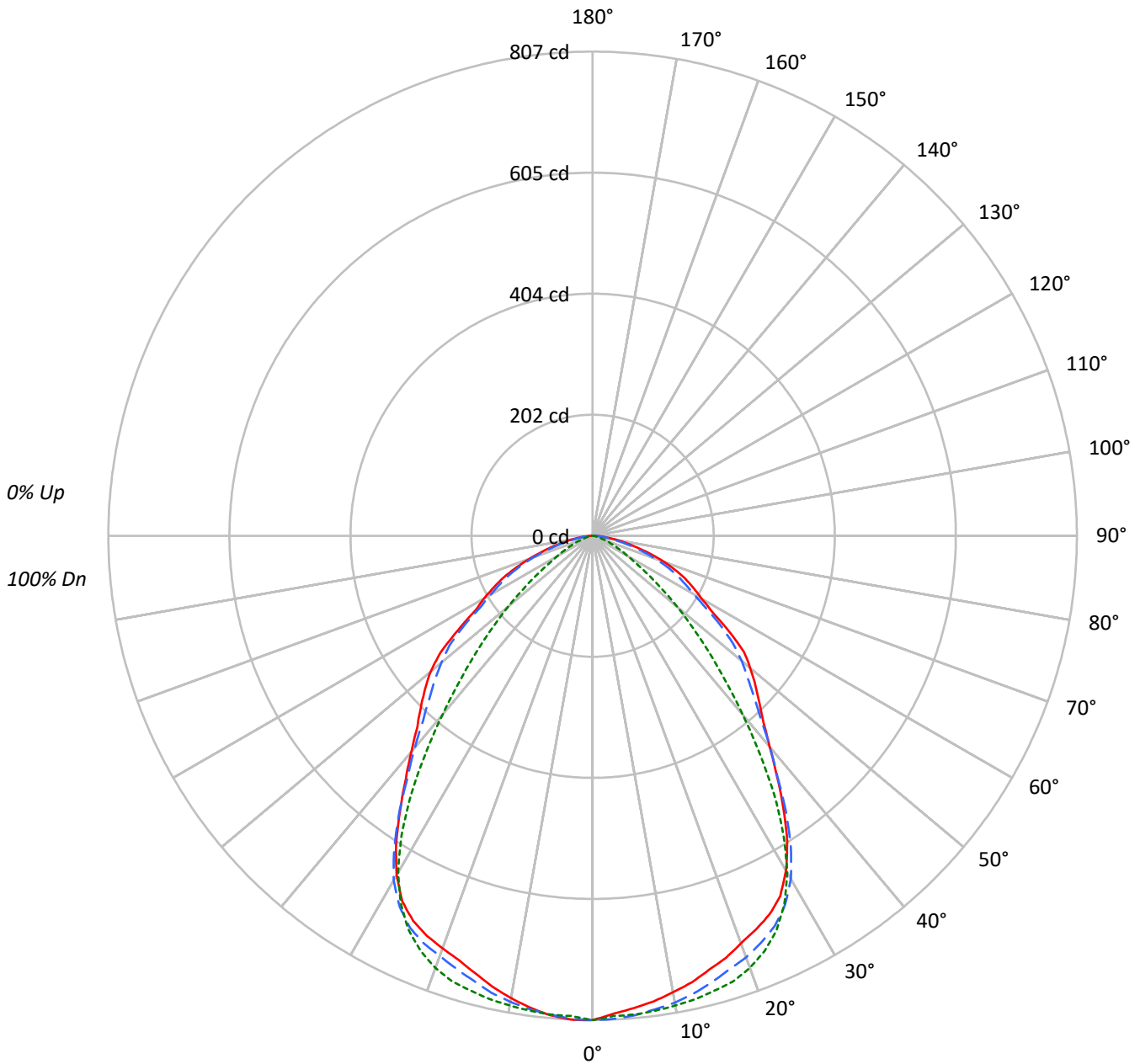
Lumens per Lamp: N/A
Luminaire Lumens: 1643.0 lumens
Efficiency: N/A
Efficacy: 75.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 21.8
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

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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	104	101	98	100	98	95	96	94	92	93	91	89	88				88				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				76				
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66				66				
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58				58				
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51				51				
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46				46				
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41				41				
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37				37				
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34				34				
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31				31				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	99180	99180	99180
5°	97425	98794	98942
10°	96368	99163	97616
15°	95251	99829	96039
20°	94497	100198	95635
25°	94454	98317	95959
30°	91442	91967	92676
35°	83072	79173	83822
40°	73499	62337	75296
45°	68193	47466	70348
50°	65518	35148	67410
55°	59330	24203	58516
60°	51574	16487	51279
65°	49825	11919	47296
70°	45044	8046	40123
75°	37119	5316	31850
80°	29856	3537	23701
85°	24527	1692	15787



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.2	4.6
10°-20°	217.9	13.3
20°-30°	329.2	20.0
30°-40°	344.5	21.0
40°-50°	279.0	17.0
50°-60°	203.0	12.4
60°-70°	125.2	7.6
70°-80°	56.6	3.4
80°-90°	11.5	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°	623.3	37.9
0°-40°	967.8	58.9
0°-60°	1449.8	88.2
0°-90°	1643.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1643.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	807	807	807	807	807	
5°	790	802	801	801	802	75
15°	749	770	785	768	755	212
25°	697	718	725	720	708	319
35°	554	561	528	561	559	345
45°	392	380	273	385	405	305
55°	277	260	113	262	273	247
65°	171	154	41	152	163	168
75°	78	67	11	58	67	85
85°	17	14	1	10	11	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3
2.5°	797.4	797.4	804.8	813.5	806.1	798.6	803.5	801.1	809.8	809.8	806.1
5°	790.0	792.4	798.6	806.1	799.9	792.4	798.6	796.1	804.8	804.8	802.3
7.5°	782.5	783.7	791.2	799.9	793.6	786.2	791.2	790.0	797.4	798.6	796.1
10°	772.5	773.8	781.2	790.0	783.7	777.5	782.5	781.2	791.2	791.2	790.0
12.5°	762.6	763.8	771.3	778.7	772.5	766.4	771.3	771.3	781.2	782.5	781.2
15°	748.9	751.4	757.6	765.1	761.4	753.9	758.9	758.9	767.6	770.0	770.0
17.5°	737.8	739.0	745.2	752.7	747.7	741.5	746.4	746.4	755.1	757.6	757.6
20°	722.8	725.3	731.5	739.0	735.3	730.3	734.0	734.0	744.0	746.4	747.7
22.5°	710.4	712.9	717.8	727.9	721.6	717.8	722.8	721.6	732.8	734.0	734.0
25°	696.8	699.3	705.5	711.7	707.9	704.3	707.9	707.9	716.6	717.8	717.8
27.5°	676.9	678.1	684.3	690.6	686.8	681.9	686.8	685.6	694.2	695.5	694.2
30°	644.6	647.1	649.6	658.3	654.5	650.8	655.7	653.3	662.0	662.0	660.7
32.5°	603.6	603.6	608.6	614.8	609.8	607.3	611.1	612.3	618.5	618.5	614.8
35°	553.9	556.5	560.1	563.9	560.1	557.7	561.4	560.1	567.6	565.1	561.4
37.5°	504.3	505.5	509.2	514.2	509.2	505.5	506.7	505.5	511.7	511.7	505.5
40°	458.3	460.8	463.3	468.2	463.3	460.8	462.0	458.3	465.8	463.3	459.5
42.5°	421.0	422.2	426.0	428.5	423.5	422.2	423.5	421.0	424.8	422.2	414.8
45°	392.5	392.5	393.8	397.4	392.5	391.2	391.2	388.7	392.5	387.5	380.1
47.5°	367.6	368.9	370.2	372.6	368.9	365.2	366.4	361.4	363.9	360.1	350.2
50°	342.8	345.3	346.5	349.0	345.3	342.8	344.0	339.1	339.1	332.9	324.2
52.5°	318.0	319.2	318.0	320.4	318.0	314.2	315.5	310.5	310.5	303.1	294.4
55°	277.0	278.2	279.5	281.9	279.5	275.7	278.2	274.5	274.5	269.5	259.5
57.5°	235.9	237.2	238.5	239.7	239.7	237.2	238.5	235.9	234.7	231.0	223.6
60°	209.9	209.9	209.9	211.1	209.9	208.7	208.7	206.2	206.2	201.2	193.8
62.5°	190.0	191.3	191.3	192.5	191.3	190.0	188.8	186.3	185.1	180.1	173.8
65°	171.4	171.4	170.2	172.6	171.4	170.2	170.2	167.7	165.2	160.3	154.0
67.5°	149.0	150.2	149.0	150.2	150.2	149.0	147.8	145.3	144.1	140.3	132.9
70°	125.4	125.4	125.4	126.7	125.4	125.4	126.7	123.0	121.8	116.7	110.5
72.5°	101.8	103.1	103.1	101.8	103.1	100.6	100.6	100.6	99.4	94.4	88.1
75°	78.2	79.5	79.5	80.7	79.5	78.2	78.2	77.0	75.8	72.0	67.1
77.5°	58.4	58.4	59.6	59.6	59.6	58.4	58.4	55.9	55.9	53.4	48.4
80°	42.2	42.2	41.0	42.2	42.2	41.0	41.0	39.7	39.7	37.3	33.5
82.5°	27.3	28.6	28.6	28.6	28.6	27.3	27.3	27.3	26.0	24.8	22.4
85°	17.4	17.4	17.4	17.4	18.6	17.4	18.6	17.4	17.4	14.9	13.7
87.5°	7.5	7.5	7.5	8.7	8.7	7.5	7.5	7.5	7.5	7.5	6.2
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°	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3
2.5°	806.1	807.3	803.5	808.5	804.8	806.1	807.3	806.1	801.1	801.1	814.8
5°	801.1	803.5	799.9	806.1	803.5	803.5	806.1	804.8	799.9	801.1	813.5
7.5°	796.1	799.9	797.4	803.5	799.9	799.9	802.3	802.3	797.4	798.6	809.8
10°	788.7	793.6	792.4	798.6	794.9	794.9	798.6	798.6	793.6	794.9	806.1
12.5°	782.5	787.4	786.2	792.4	790.0	791.2	792.4	794.9	788.7	791.2	801.1
15°	772.5	777.5	777.5	783.7	781.2	783.7	786.2	790.0	784.9	784.9	794.9
17.5°	761.4	767.6	767.6	772.5	772.5	773.8	778.7	782.5	777.5	778.7	787.4
20°	748.9	756.4	756.4	762.6	761.4	763.8	767.6	771.3	766.4	766.4	776.3
22.5°	736.5	742.7	744.0	747.7	747.7	748.9	752.7	755.1	748.9	748.9	758.9
25°	719.1	725.3	726.6	729.1	726.6	726.6	729.1	731.5	725.3	725.3	734.0
27.5°	695.5	701.7	701.7	700.5	698.0	699.3	698.0	699.3	693.0	691.8	700.5
30°	660.7	664.5	664.5	663.2	659.5	659.5	655.7	657.0	648.3	648.3	655.7
32.5°	613.6	617.3	614.8	612.3	607.3	604.9	602.4	601.1	592.4	592.4	601.1
35°	557.7	560.1	556.5	551.5	545.2	541.5	537.8	532.8	526.6	527.9	532.8
37.5°	500.5	500.5	495.6	485.6	480.7	474.4	468.2	468.2	458.3	457.1	460.8
40°	452.1	447.1	438.4	424.8	416.1	409.9	401.2	396.2	388.7	388.7	395.0
42.5°	408.6	398.7	387.5	368.9	360.1	352.7	341.6	336.6	327.9	326.6	330.4
45°	370.2	360.1	344.0	324.2	313.0	304.3	288.1	281.9	274.5	273.2	275.7
47.5°	339.1	327.9	308.1	281.9	270.8	259.5	243.4	234.7	228.5	224.8	228.5
50°	311.7	296.8	275.7	248.4	233.5	223.6	203.7	195.0	186.3	183.9	185.1
52.5°	281.9	267.0	244.7	216.1	202.4	187.5	168.9	156.5	149.0	145.3	149.0
55°	249.6	234.7	212.4	183.9	168.9	155.3	135.4	125.4	116.7	113.0	116.7
57.5°	214.9	201.2	181.3	152.8	139.1	126.7	108.1	98.2	89.4	86.9	89.4
60°	185.1	173.8	154.0	126.7	115.5	101.8	85.7	75.8	68.3	67.1	68.3
62.5°	165.2	152.8	134.1	108.1	96.9	85.7	70.8	60.9	54.6	53.4	54.6
65°	145.3	131.7	114.3	91.9	80.7	72.0	57.1	48.4	42.2	41.0	42.2
67.5°	123.0	110.5	95.6	75.8	67.1	58.4	46.0	37.3	32.3	31.1	32.3
70°	101.8	90.7	75.8	60.9	52.2	46.0	34.8	28.6	23.6	22.4	23.6
72.5°	80.7	70.8	58.4	46.0	41.0	34.8	27.3	21.1	17.4	16.1	17.4
75°	62.1	54.6	44.7	33.5	29.8	26.0	18.6	14.9	12.5	11.2	12.5
77.5°	43.5	38.5	31.1	24.8	21.1	18.6	13.7	9.9	8.7	7.5	8.7
80°	29.8	26.0	21.1	16.1	13.7	11.2	8.7	6.2	5.0	5.0	5.0
82.5°	19.9	16.1	12.5	9.9	8.7	7.5	5.0	3.7	3.7	2.5	2.5
85°	11.2	9.9	7.5	6.2	5.0	3.7	2.5	2.5	1.2	1.2	1.2
87.5°	5.0	3.7	2.5	2.5	1.2	1.2	1.2	1.2	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°	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3
2.5°	811.0	807.3	812.3	807.3	804.8	807.3	804.8	812.3	806.1	801.1	806.1
5°	809.8	804.8	809.8	806.1	802.3	803.5	801.1	808.5	801.1	797.4	799.9
7.5°	807.3	803.5	806.1	802.3	798.6	799.9	797.4	803.5	796.1	792.4	794.9
10°	803.5	799.9	801.1	798.6	794.9	794.9	792.4	797.4	788.7	783.7	786.2
12.5°	798.6	793.6	796.1	792.4	787.4	787.4	784.9	788.7	779.9	775.0	776.3
15°	792.4	787.4	787.4	783.7	778.7	778.7	773.8	777.5	767.6	762.6	762.6
17.5°	784.9	778.7	778.7	775.0	768.8	767.6	763.8	767.6	756.4	751.4	751.4
20°	773.8	768.8	767.6	765.1	758.9	757.6	752.7	753.9	745.2	741.5	740.2
22.5°	758.9	753.9	755.1	751.4	746.4	745.2	740.2	744.0	735.3	731.5	732.8
25°	732.8	730.3	732.8	731.5	727.9	727.9	725.3	727.9	720.4	717.8	719.1
27.5°	703.0	701.7	703.0	703.0	700.5	700.5	700.5	704.3	696.8	695.5	695.5
30°	659.5	659.5	660.7	662.0	662.0	664.5	663.2	668.2	663.2	660.7	663.2
32.5°	602.4	607.3	611.1	611.1	611.1	613.6	616.0	619.8	614.8	616.0	616.0
35°	537.8	541.5	544.0	550.2	546.5	555.2	557.7	562.6	561.4	563.9	562.6
37.5°	465.8	470.7	475.7	484.4	483.1	493.1	498.0	507.9	505.5	510.5	512.9
40°	398.7	406.1	413.6	419.8	424.8	434.7	444.6	457.1	460.8	464.5	465.8
42.5°	334.1	341.6	354.0	362.7	370.2	386.3	399.9	414.8	418.6	426.0	428.5
45°	281.9	288.1	303.1	314.2	320.4	344.0	360.1	378.8	385.0	393.8	397.4
47.5°	233.5	244.7	259.5	273.2	281.9	306.8	327.9	347.8	356.5	366.4	371.4
50°	191.3	203.7	223.6	235.9	248.4	275.7	299.3	320.4	329.1	340.3	345.3
52.5°	156.5	170.2	188.8	202.4	216.1	244.7	269.5	289.4	300.6	308.1	315.5
55°	123.0	137.9	156.5	171.4	182.6	213.6	234.7	254.6	262.1	268.3	272.0
57.5°	95.6	106.8	125.4	137.9	151.5	178.8	200.0	214.9	221.1	228.5	231.0
60°	74.5	85.7	103.1	115.5	127.9	154.0	175.1	190.0	196.2	202.4	206.2
62.5°	59.6	70.8	86.9	98.2	109.3	132.9	151.5	166.4	173.8	180.1	183.9
65°	47.2	57.1	70.8	82.0	90.7	111.7	130.4	144.1	151.5	157.7	161.5
67.5°	37.3	46.0	58.4	65.8	74.5	91.9	108.1	120.5	126.7	134.1	137.9
70°	28.6	34.8	46.0	52.2	58.4	73.3	85.7	98.2	104.3	109.3	111.7
72.5°	21.1	26.0	34.8	39.7	43.5	55.9	65.8	74.5	79.5	84.5	86.9
75°	14.9	18.6	24.8	28.6	31.1	39.7	48.4	54.6	58.4	62.1	65.8
77.5°	9.9	12.5	16.1	18.6	21.1	27.3	32.3	37.3	41.0	44.7	46.0
80°	6.2	8.7	11.2	12.5	13.7	17.4	22.4	24.8	27.3	29.8	31.1
82.5°	3.7	5.0	6.2	7.5	8.7	11.2	13.7	16.1	17.4	19.9	21.1
85°	1.2	2.5	2.5	3.7	3.7	6.2	7.5	8.7	9.9	11.2	12.5
87.5°	0.0	0.0	1.2	1.2	1.2	1.2	2.5	2.5	2.5	2.5	2.5
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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	807.3	807.3	807.3	807.3	807.3	807.3	807.3	807.3
2.5°	811.0	807.3	804.8	803.5	812.3	801.1	806.1	807.3
5°	806.1	802.3	799.9	798.6	806.1	796.1	799.9	802.3
7.5°	798.6	796.1	792.4	791.2	798.6	787.4	792.4	793.6
10°	790.0	786.2	783.7	782.5	788.7	777.5	782.5	782.5
12.5°	778.7	776.3	771.3	771.3	776.3	766.4	770.0	770.0
15°	763.8	761.4	756.4	756.4	761.4	751.4	755.1	755.1
17.5°	751.4	748.9	745.2	744.0	748.9	739.0	742.7	741.5
20°	741.5	739.0	734.0	734.0	737.8	727.9	731.5	731.5
22.5°	732.8	731.5	726.6	726.6	731.5	721.6	724.1	721.6
25°	719.1	717.8	712.9	714.2	716.6	706.7	710.4	707.9
27.5°	696.8	696.8	691.8	690.6	694.2	685.6	688.1	686.8
30°	662.0	663.2	657.0	657.0	658.3	650.8	654.5	653.3
32.5°	614.8	616.0	611.1	609.8	613.6	607.3	609.8	609.8
35°	562.6	563.9	560.1	560.1	563.9	560.1	560.1	558.9
37.5°	510.5	512.9	510.5	511.7	514.2	510.5	512.9	511.7
40°	468.2	470.7	467.0	469.5	472.0	468.2	472.0	469.5
42.5°	429.7	433.5	431.0	433.5	435.9	433.5	435.9	432.3
45°	401.2	403.7	402.4	403.7	406.1	404.9	406.1	404.9
47.5°	373.8	378.8	376.3	378.8	382.5	380.1	382.5	378.8
50°	349.0	352.7	351.5	354.0	355.2	354.0	356.5	352.7
52.5°	316.7	320.4	319.2	319.2	321.6	319.2	321.6	319.2
55°	274.5	275.7	275.7	277.0	275.7	274.5	275.7	273.2
57.5°	233.5	235.9	232.3	235.9	234.7	233.5	233.5	231.0
60°	207.4	211.1	208.7	211.1	209.9	209.9	209.9	208.7
62.5°	186.3	188.8	186.3	187.5	187.5	187.5	186.3	185.1
65°	162.7	166.4	163.9	165.2	163.9	162.7	163.9	162.7
67.5°	139.1	140.3	140.3	139.1	139.1	139.1	139.1	136.6
70°	113.0	114.3	113.0	115.5	114.3	113.0	114.3	111.7
72.5°	88.1	89.4	88.1	89.4	88.1	88.1	88.1	88.1
75°	65.8	67.1	67.1	67.1	67.1	67.1	64.6	67.1
77.5°	47.2	47.2	47.2	48.4	47.2	47.2	47.2	47.2
80°	32.3	32.3	32.3	33.5	32.3	33.5	32.3	33.5
82.5°	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1
85°	11.2	12.5	12.5	11.2	11.2	11.2	11.2	11.2
87.5°	2.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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)