

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: P880556

Luminaire Tested: **LD4C20D010 EU4209050 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: P880556
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 EU4209050 4LBDWNH
Description: 4 INCH 2000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS
AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

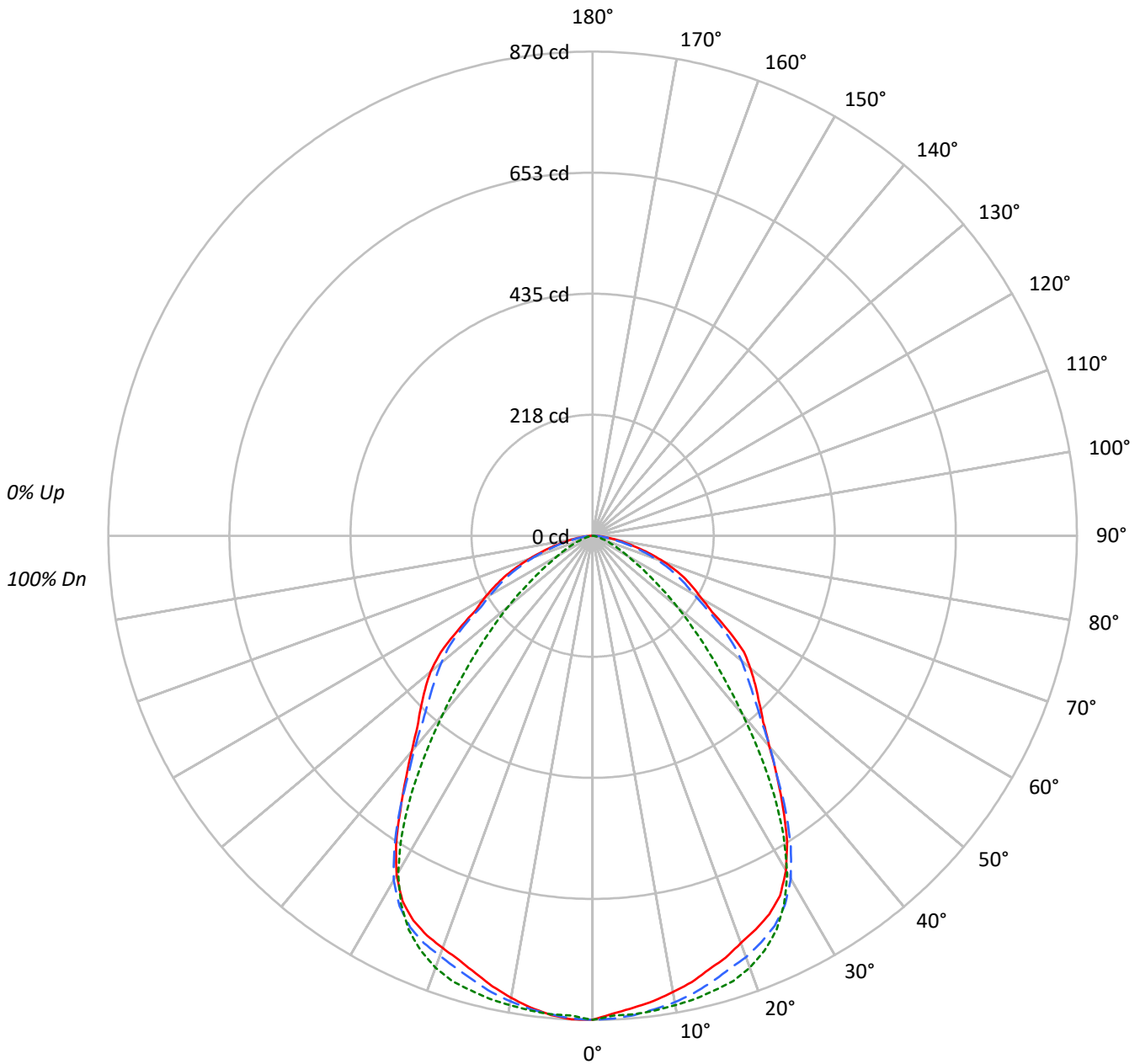
Lumens per Lamp: N/A
Luminaire Lumens: 1770.0 lumens
Efficiency: N/A
Efficacy: 81.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	106846	106846	106846
5°	104948	106428	106588
10°	103828	106835	105163
15°	102615	107550	103467
20°	101806	107937	103035
25°	101747	105922	103373
30°	98507	99088	99840
35°	89491	85292	90301
40°	79177	67165	81101
45°	73458	51132	75786
50°	70583	37862	72628
55°	63914	26088	63036
60°	55554	17740	55235
65°	53692	12849	50959
70°	48528	8657	43248
75°	40015	5696	34271
80°	32191	3750	25540
85°	26500	1832	16915



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.1	4.6
10°-20°	234.7	13.3
20°-30°	354.6	20.0
30°-40°	371.1	21.0
40°-50°	300.6	17.0
50°-60°	218.6	12.4
60°-70°	134.8	7.6
70°-80°	60.9	3.4
80°-90°	12.4	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°	671.5	37.9
0°-40°	1042.6	58.9
0°-60°	1561.8	88.2
0°-90°	1770.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1770.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	870	870	870	870	870	
5°	851	864	863	863	864	81
15°	807	830	846	827	814	228
25°	751	773	781	776	763	344
35°	597	605	569	605	602	372
45°	423	410	294	415	436	329
55°	298	280	122	282	294	266
65°	185	166	44	163	175	181
75°	84	72	12	63	72	91
85°	19	15	1	11	12	22
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°	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7
2.5°	859.0	859.0	867.1	876.4	868.4	860.3	865.7	863.0	872.4	872.4	868.4
5°	851.0	853.6	860.3	868.4	861.7	853.6	860.3	857.7	867.1	867.1	864.3
7.5°	843.0	844.3	852.3	861.7	855.0	847.0	852.3	851.0	859.0	860.3	857.7
10°	832.3	833.6	841.6	851.0	844.3	837.6	843.0	841.6	852.3	852.3	851.0
12.5°	821.6	822.9	830.9	838.9	832.3	825.6	830.9	830.9	841.6	843.0	841.6
15°	806.8	809.5	816.2	824.2	820.2	812.2	817.5	817.5	826.9	829.5	829.5
17.5°	794.8	796.1	802.8	810.9	805.5	798.8	804.1	804.1	813.5	816.2	816.2
20°	778.7	781.4	788.1	796.1	792.1	786.7	790.8	790.8	801.5	804.1	805.5
22.5°	765.4	768.0	773.3	784.1	777.4	773.3	778.7	777.4	789.5	790.8	790.8
25°	750.6	753.3	760.0	766.7	762.6	758.7	762.6	762.6	772.0	773.3	773.3
27.5°	729.2	730.5	737.2	744.0	739.9	734.6	739.9	738.6	747.9	749.3	747.9
30°	694.4	697.1	699.8	709.2	705.1	701.1	706.4	703.8	713.2	713.2	711.8
32.5°	650.2	650.2	655.7	662.3	657.0	654.3	658.3	659.6	666.4	666.4	662.3
35°	596.7	599.5	603.4	607.4	603.4	600.8	604.8	603.4	611.5	608.8	604.8
37.5°	543.3	544.6	548.6	554.0	548.6	544.6	545.9	544.6	551.2	551.2	544.6
40°	493.7	496.4	499.1	504.4	499.1	496.4	497.8	493.7	501.8	499.1	495.0
42.5°	453.6	454.9	458.9	461.6	456.3	454.9	456.3	453.6	457.6	454.9	446.9
45°	422.8	422.8	424.2	428.1	422.8	421.5	421.5	418.8	422.8	417.4	409.5
47.5°	396.0	397.4	398.8	401.4	397.4	393.4	394.7	389.4	392.0	388.0	377.3
50°	369.3	371.9	373.3	376.0	371.9	369.3	370.6	365.3	365.3	358.6	349.2
52.5°	342.6	343.9	342.6	345.2	342.6	338.5	339.8	334.5	334.5	326.5	317.1
55°	298.4	299.7	301.1	303.7	301.1	297.1	299.7	295.7	295.7	290.3	279.6
57.5°	254.2	255.6	256.9	258.2	258.2	255.6	256.9	254.2	252.9	248.8	240.9
60°	226.1	226.1	226.1	227.4	226.1	224.8	224.8	222.1	222.1	216.7	208.8
62.5°	204.7	206.0	206.0	207.4	206.0	204.7	203.4	200.7	199.4	194.0	187.3
65°	184.7	184.7	183.3	186.0	184.7	183.3	183.3	180.6	178.0	172.6	165.9
67.5°	160.5	161.9	160.5	161.9	161.9	160.5	159.2	156.5	155.2	151.2	143.2
70°	135.1	135.1	135.1	136.5	135.1	135.1	136.5	132.5	131.2	125.7	119.1
72.5°	109.7	111.1	111.1	109.7	111.1	108.4	108.4	108.4	107.1	101.7	95.0
75°	84.3	85.7	85.7	87.0	85.7	84.3	84.3	82.9	81.6	77.6	72.2
77.5°	62.9	62.9	64.2	64.2	64.2	62.9	62.9	60.2	60.2	57.5	52.2
80°	45.5	45.5	44.2	45.5	45.5	44.2	44.2	42.8	42.8	40.2	36.1
82.5°	29.5	30.8	30.8	30.8	30.8	29.5	29.5	29.5	28.1	26.7	24.1
85°	18.8	18.8	18.8	18.8	20.1	18.8	20.1	18.8	18.8	16.0	14.7
87.5°	8.1	8.1	8.1	9.4	9.4	8.1	8.1	8.1	8.1	8.1	6.7
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°	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7
2.5°	868.4	869.7	865.7	871.0	867.1	868.4	869.7	868.4	863.0	863.0	877.8
5°	863.0	865.7	861.7	868.4	865.7	865.7	868.4	867.1	861.7	863.0	876.4
7.5°	857.7	861.7	859.0	865.7	861.7	861.7	864.3	864.3	859.0	860.3	872.4
10°	849.6	855.0	853.6	860.3	856.4	856.4	860.3	860.3	855.0	856.4	868.4
12.5°	843.0	848.3	847.0	853.6	851.0	852.3	853.6	856.4	849.6	852.3	863.0
15°	832.3	837.6	837.6	844.3	841.6	844.3	847.0	851.0	845.6	845.6	856.4
17.5°	820.2	826.9	826.9	832.3	832.3	833.6	838.9	843.0	837.6	838.9	848.3
20°	806.8	814.9	814.9	821.6	820.2	822.9	826.9	830.9	825.6	825.6	836.3
22.5°	793.4	800.2	801.5	805.5	805.5	806.8	810.9	813.5	806.8	806.8	817.5
25°	774.7	781.4	782.7	785.4	782.7	782.7	785.4	788.1	781.4	781.4	790.8
27.5°	749.3	756.0	756.0	754.7	751.9	753.3	751.9	753.3	746.6	745.3	754.7
30°	711.8	715.8	715.8	714.5	710.5	710.5	706.4	707.8	698.5	698.5	706.4
32.5°	661.0	665.0	662.3	659.6	654.3	651.6	648.9	647.6	638.2	638.2	647.6
35°	600.8	603.4	599.5	594.1	587.4	583.3	579.4	574.0	567.3	568.7	574.0
37.5°	539.2	539.2	533.9	523.2	517.8	511.1	504.4	504.4	493.7	492.4	496.4
40°	487.1	481.7	472.3	457.6	448.2	441.6	432.2	426.8	418.8	418.8	425.5
42.5°	440.2	429.5	417.4	397.4	388.0	380.0	368.0	362.6	353.3	351.9	355.9
45°	398.8	388.0	370.6	349.2	337.2	327.8	310.4	303.7	295.7	294.3	297.1
47.5°	365.3	353.3	331.9	303.7	291.7	279.6	262.2	252.9	246.2	242.2	246.2
50°	335.8	319.8	297.1	267.6	251.6	240.9	219.5	210.1	200.7	198.1	199.4
52.5°	303.7	287.7	263.6	232.8	218.1	202.0	181.9	168.6	160.5	156.5	160.5
55°	268.9	252.9	228.8	198.1	181.9	167.3	145.8	135.1	125.7	121.8	125.7
57.5°	231.5	216.7	195.4	164.6	149.8	136.5	116.4	105.7	96.4	93.6	96.4
60°	199.4	187.3	165.9	136.5	124.4	109.7	92.3	81.6	73.6	72.2	73.6
62.5°	178.0	164.6	144.5	116.4	104.3	92.3	76.3	65.6	58.8	57.5	58.8
65°	156.5	141.9	123.1	99.0	87.0	77.6	61.6	52.2	45.5	44.2	45.5
67.5°	132.5	119.1	103.0	81.6	72.2	62.9	49.5	40.2	34.8	33.5	34.8
70°	109.7	97.7	81.6	65.6	56.2	49.5	37.4	30.8	25.4	24.1	25.4
72.5°	87.0	76.3	62.9	49.5	44.2	37.4	29.5	22.7	18.8	17.4	18.8
75°	66.9	58.8	48.1	36.1	32.1	28.1	20.1	16.0	13.4	12.0	13.4
77.5°	46.8	41.5	33.5	26.7	22.7	20.1	14.7	10.7	9.4	8.1	9.4
80°	32.1	28.1	22.7	17.4	14.7	12.0	9.4	6.7	5.3	5.3	5.3
82.5°	21.4	17.4	13.4	10.7	9.4	8.1	5.3	4.0	4.0	2.7	2.7
85°	12.0	10.7	8.1	6.7	5.3	4.0	2.7	2.7	1.3	1.3	1.3
87.5°	5.3	4.0	2.7	2.7	1.3	1.3	1.3	1.3	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°	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7
2.5°	873.7	869.7	875.0	869.7	867.1	869.7	867.1	875.0	868.4	863.0	868.4
5°	872.4	867.1	872.4	868.4	864.3	865.7	863.0	871.0	863.0	859.0	861.7
7.5°	869.7	865.7	868.4	864.3	860.3	861.7	859.0	865.7	857.7	853.6	856.4
10°	865.7	861.7	863.0	860.3	856.4	856.4	853.6	859.0	849.6	844.3	847.0
12.5°	860.3	855.0	857.7	853.6	848.3	848.3	845.6	849.6	840.2	834.9	836.3
15°	853.6	848.3	848.3	844.3	838.9	838.9	833.6	837.6	826.9	821.6	821.6
17.5°	845.6	838.9	838.9	834.9	828.2	826.9	822.9	826.9	814.9	809.5	809.5
20°	833.6	828.2	826.9	824.2	817.5	816.2	810.9	812.2	802.8	798.8	797.4
22.5°	817.5	812.2	813.5	809.5	804.1	802.8	797.4	801.5	792.1	788.1	789.5
25°	789.5	786.7	789.5	788.1	784.1	784.1	781.4	784.1	776.1	773.3	774.7
27.5°	757.3	756.0	757.3	757.3	754.7	754.7	754.7	758.7	750.6	749.3	749.3
30°	710.5	710.5	711.8	713.2	713.2	715.8	714.5	719.8	714.5	711.8	714.5
32.5°	648.9	654.3	658.3	658.3	658.3	661.0	663.6	667.7	662.3	663.6	663.6
35°	579.4	583.3	586.1	592.7	588.8	598.1	600.8	606.1	604.8	607.4	606.1
37.5°	501.8	507.1	512.5	521.9	520.5	531.2	536.5	547.2	544.6	549.9	552.6
40°	429.5	437.5	445.6	452.3	457.6	468.3	479.0	492.4	496.4	500.4	501.8
42.5°	359.9	368.0	381.3	390.7	398.8	416.1	430.9	446.9	450.9	458.9	461.6
45°	303.7	310.4	326.5	338.5	345.2	370.6	388.0	408.1	414.8	424.2	428.1
47.5°	251.6	263.6	279.6	294.3	303.7	330.5	353.3	374.7	384.0	394.7	400.1
50°	206.0	219.5	240.9	254.2	267.6	297.1	322.5	345.2	354.6	366.6	371.9
52.5°	168.6	183.3	203.4	218.1	232.8	263.6	290.3	311.8	323.8	331.9	339.8
55°	132.5	148.5	168.6	184.7	196.7	230.2	252.9	274.3	282.3	289.0	293.0
57.5°	103.0	115.0	135.1	148.5	163.3	192.6	215.4	231.5	238.1	246.2	248.8
60°	80.3	92.3	111.1	124.4	137.8	165.9	188.7	204.7	211.4	218.1	222.1
62.5°	64.2	76.3	93.6	105.7	117.8	143.2	163.3	179.3	187.3	194.0	198.1
65°	50.9	61.6	76.3	88.3	97.7	120.4	140.5	155.2	163.3	169.9	174.0
67.5°	40.2	49.5	62.9	70.9	80.3	99.0	116.4	129.8	136.5	144.5	148.5
70°	30.8	37.4	49.5	56.2	62.9	78.9	92.3	105.7	112.4	117.8	120.4
72.5°	22.7	28.1	37.4	42.8	46.8	60.2	70.9	80.3	85.7	91.0	93.6
75°	16.0	20.1	26.7	30.8	33.5	42.8	52.2	58.8	62.9	66.9	70.9
77.5°	10.7	13.4	17.4	20.1	22.7	29.5	34.8	40.2	44.2	48.1	49.5
80°	6.7	9.4	12.0	13.4	14.7	18.8	24.1	26.7	29.5	32.1	33.5
82.5°	4.0	5.3	6.7	8.1	9.4	12.0	14.7	17.4	18.8	21.4	22.7
85°	1.3	2.7	2.7	4.0	4.0	6.7	8.1	9.4	10.7	12.0	13.4
87.5°	0.0	0.0	1.3	1.3	1.3	1.3	2.7	2.7	2.7	2.7	2.7
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°	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7
2.5°	873.7	869.7	867.1	865.7	875.0	863.0	868.4	869.7
5°	868.4	864.3	861.7	860.3	868.4	857.7	861.7	864.3
7.5°	860.3	857.7	853.6	852.3	860.3	848.3	853.6	855.0
10°	851.0	847.0	844.3	843.0	849.6	837.6	843.0	843.0
12.5°	838.9	836.3	830.9	830.9	836.3	825.6	829.5	829.5
15°	822.9	820.2	814.9	814.9	820.2	809.5	813.5	813.5
17.5°	809.5	806.8	802.8	801.5	806.8	796.1	800.2	798.8
20°	798.8	796.1	790.8	790.8	794.8	784.1	788.1	788.1
22.5°	789.5	788.1	782.7	782.7	788.1	777.4	780.1	777.4
25°	774.7	773.3	768.0	769.4	772.0	761.3	765.4	762.6
27.5°	750.6	750.6	745.3	744.0	747.9	738.6	741.2	739.9
30°	713.2	714.5	707.8	707.8	709.2	701.1	705.1	703.8
32.5°	662.3	663.6	658.3	657.0	661.0	654.3	657.0	657.0
35°	606.1	607.4	603.4	603.4	607.4	603.4	603.4	602.1
37.5°	549.9	552.6	549.9	551.2	554.0	549.9	552.6	551.2
40°	504.4	507.1	503.1	505.7	508.5	504.4	508.5	505.7
42.5°	462.9	467.0	464.3	467.0	469.6	467.0	469.6	465.7
45°	432.2	434.9	433.5	434.9	437.5	436.2	437.5	436.2
47.5°	402.7	408.1	405.4	408.1	412.1	409.5	412.1	408.1
50°	376.0	380.0	378.7	381.3	382.6	381.3	384.0	380.0
52.5°	341.2	345.2	343.9	343.9	346.5	343.9	346.5	343.9
55°	295.7	297.1	297.1	298.4	297.1	295.7	297.1	294.3
57.5°	251.6	254.2	250.2	254.2	252.9	251.6	251.6	248.8
60°	223.4	227.4	224.8	227.4	226.1	226.1	226.1	224.8
62.5°	200.7	203.4	200.7	202.0	202.0	202.0	200.7	199.4
65°	175.3	179.3	176.6	178.0	176.6	175.3	176.6	175.3
67.5°	149.8	151.2	151.2	149.8	149.8	149.8	149.8	147.2
70°	121.8	123.1	121.8	124.4	123.1	121.8	123.1	120.4
72.5°	95.0	96.4	95.0	96.4	95.0	95.0	95.0	95.0
75°	70.9	72.2	72.2	72.2	72.2	72.2	69.6	72.2
77.5°	50.9	50.9	50.9	52.2	50.9	50.9	50.9	50.9
80°	34.8	34.8	34.8	36.1	34.8	36.1	34.8	36.1
82.5°	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
85°	12.0	13.4	13.4	12.0	12.0	12.0	12.0	12.0
87.5°	2.7	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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)