

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: P843391

Luminaire Tested: **LD4C15DE010B35 EU4C15B35 4LBSWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843391
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251556)
Test Lab: INNOVATION CENTER
Issue Date: 5/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C15DE010B35 EU4C15B35 4LBSWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

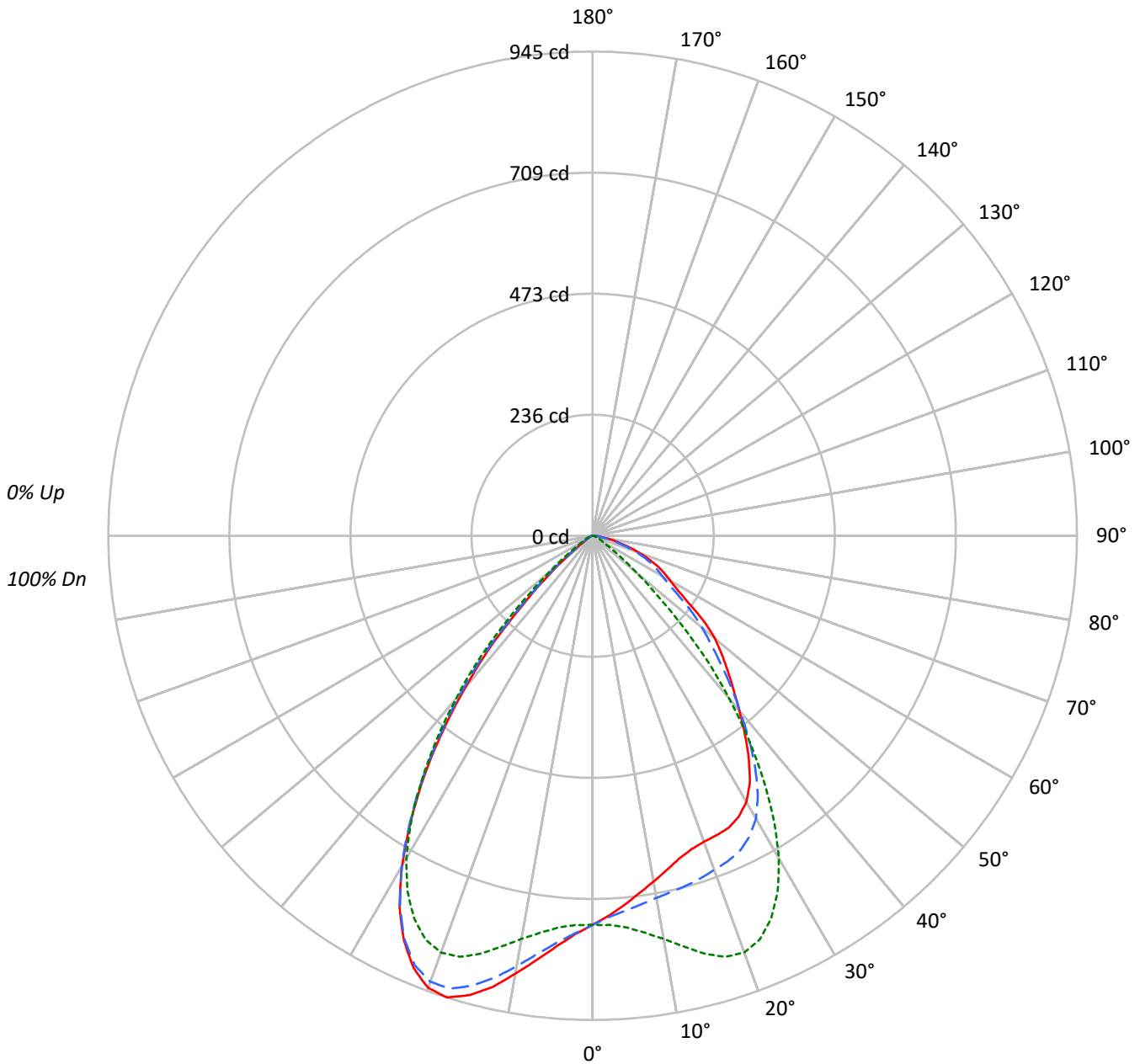
Lumens per Lamp: N/A
Luminaire Lumens: 1401.4 lumens
Efficiency: N/A
Efficacy: 82.4 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 17
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				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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90				90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80				80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72				72
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64				64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58				58
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53				53
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48				48
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44				44
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40				40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37				37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	93295	93295	93295
5°	89125	94626	99151
10°	85453	99674	108219
15°	82964	107422	118030
20°	83071	113154	122750
25°	85209	111683	118122
30°	85087	103089	105472
35°	79697	87136	85936
40°	71398	66459	62017
45°	64753	42184	34627
50°	59498	21406	14774
55°	48835	9553	4883
60°	42876	5356	2678
65°	40349	4041	2035
70°	34519	3197	1796
75°	26344	2373	1424
80°	18961	1415	778
85°	13955	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.8	5.3
10°-20°	229.9	16.4
20°-30°	355.7	25.4
30°-40°	350.4	25.0
40°-50°	215.2	15.4
50°-60°	95.7	6.8
60°-70°	53.4	3.8
70°-80°	23.1	1.7
80°-90°	4.1	0.3
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°	659.3	47.0
0°-40°	1009.8	72.1
0°-60°	1320.6	94.2
0°-90°	1401.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1401.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	759	759	759	759	759	
5°	723	735	767	797	804	68
15°	652	707	845	909	928	185
25°	629	679	824	868	871	288
35°	531	553	581	579	573	330
45°	373	354	243	212	199	289
55°	228	206	45	26	23	210
65°	139	125	14	8	7	136
75°	56	48	5	3	3	61
85°	10	8	0	0	0	12
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°	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4
2.5°	741.5	741.5	741.5	741.5	743.5	740.6	743.5	743.5	746.5	747.5	744.6
5°	722.7	721.7	722.7	722.7	724.7	723.7	726.7	728.6	732.6	734.6	734.6
7.5°	702.9	702.9	702.9	704.9	707.9	706.8	709.8	712.8	718.8	722.7	725.6
10°	685.0	684.1	687.0	688.0	691.0	691.0	695.9	698.9	705.9	713.8	717.8
12.5°	668.2	667.2	669.2	672.1	677.1	677.1	681.1	686.1	695.9	704.9	711.8
15°	652.3	653.3	656.3	658.3	664.2	664.2	669.2	675.1	686.1	697.0	706.8
17.5°	641.5	642.4	644.4	647.4	653.3	653.3	658.3	665.3	677.1	688.9	700.9
20°	635.4	636.5	638.5	641.5	646.4	647.4	651.4	659.3	670.1	683.0	693.9
22.5°	632.5	634.5	636.5	638.5	643.4	643.4	648.3	654.4	665.3	678.2	688.0
25°	628.6	630.5	631.5	634.5	638.5	638.5	641.5	648.3	658.3	669.2	679.1
27.5°	617.7	619.7	620.6	623.6	627.5	626.5	630.5	635.4	644.4	654.4	662.2
30°	599.8	600.7	602.7	603.7	606.8	606.8	609.7	614.7	620.6	629.5	637.4
32.5°	571.0	573.0	574.0	575.0	578.0	576.9	578.0	581.0	586.9	594.8	599.8
35°	531.4	535.4	535.4	537.3	538.3	537.3	537.3	541.3	544.3	550.2	553.2
37.5°	487.8	490.7	489.8	491.7	492.8	489.8	491.7	492.8	496.7	499.6	500.7
40°	445.2	446.1	446.1	446.1	446.1	445.2	446.1	447.1	450.1	450.1	447.1
42.5°	406.4	407.5	407.5	405.5	407.5	406.4	406.4	406.4	406.4	402.5	399.5
45°	372.7	373.8	373.8	372.7	372.7	370.8	369.7	368.8	365.8	360.9	353.9
47.5°	341.0	343.0	344.0	342.0	341.0	339.1	339.1	333.0	329.1	323.2	313.3
50°	311.3	313.3	313.3	311.3	311.3	308.3	305.3	303.3	297.4	290.5	278.6
52.5°	273.6	276.6	276.6	275.6	275.6	271.6	270.6	266.6	261.7	253.8	243.9
55°	228.0	232.0	231.0	230.0	228.0	228.0	228.0	225.1	222.1	216.1	206.2
57.5°	195.2	196.3	196.3	195.2	195.2	193.3	193.3	190.4	189.3	183.4	175.5
60°	174.5	174.5	175.5	174.5	173.5	172.5	171.5	169.5	166.6	162.6	156.6
62.5°	157.6	158.6	158.6	157.6	156.6	155.7	154.6	152.7	150.7	147.8	141.7
65°	138.8	140.8	139.8	138.8	137.8	136.8	136.8	134.8	132.8	130.8	124.9
67.5°	117.9	119.0	119.9	117.9	117.9	117.0	117.0	115.0	114.0	110.0	106.1
70°	96.1	97.1	97.1	96.1	96.1	95.2	95.2	94.2	93.2	90.2	86.3
72.5°	75.3	76.4	75.3	74.4	74.4	74.4	73.4	72.3	71.4	69.4	66.4
75°	55.5	55.5	56.5	55.5	54.6	54.6	53.5	53.5	51.5	50.6	47.6
77.5°	39.7	40.6	39.7	39.7	38.6	37.7	37.7	36.7	36.7	35.6	33.7
80°	26.8	26.8	27.8	26.8	25.8	26.8	25.8	24.7	24.7	23.8	21.8
82.5°	16.8	17.9	16.8	16.8	16.8	16.8	16.8	15.9	15.9	14.9	13.9
85°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	8.9	8.9	8.9	7.9
87.5°	5.0	5.0	3.9	3.9	5.0	5.0	5.0	3.9	3.9	3.9	3.9
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°	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4
2.5°	748.5	749.4	751.4	754.4	754.4	752.5	757.5	757.5	759.4	760.3	764.4
5°	740.6	742.6	746.5	751.4	752.5	751.4	758.4	761.4	764.4	767.3	773.2
7.5°	733.6	737.6	744.6	751.4	754.4	754.4	765.3	769.3	775.2	781.2	788.1
10°	729.7	735.6	745.5	756.4	759.4	762.3	775.2	783.2	791.1	799.0	809.0
12.5°	724.7	735.6	748.5	762.3	768.3	772.3	790.2	800.0	811.0	820.8	833.7
15°	723.7	736.6	753.5	771.3	779.3	785.2	805.0	818.8	831.7	844.6	857.5
17.5°	719.7	735.6	756.4	776.3	786.1	794.1	816.9	833.7	848.6	861.5	876.4
20°	714.7	732.6	755.5	777.3	788.1	796.1	820.8	836.7	853.5	865.5	879.3
22.5°	707.9	725.6	748.5	770.3	780.2	787.1	811.9	825.8	840.7	852.6	865.5
25°	695.9	712.8	732.6	750.5	760.3	766.4	788.1	801.1	811.9	823.9	835.7
27.5°	679.1	692.0	708.8	721.7	727.7	733.6	751.4	762.3	772.3	782.2	790.2
30°	649.3	659.3	671.2	682.1	688.0	688.9	705.9	711.8	719.7	726.7	732.6
32.5°	609.7	617.7	624.5	630.5	634.5	635.4	648.3	650.3	658.3	658.3	667.2
35°	559.2	563.1	568.1	568.1	571.0	568.1	576.9	578.9	580.0	581.0	587.9
37.5°	501.6	503.6	506.6	500.7	500.7	497.6	500.7	502.6	498.7	498.7	503.6
40°	447.1	443.1	439.1	433.2	430.2	424.3	424.3	419.4	416.4	414.4	415.4
42.5°	394.6	385.6	376.7	363.8	357.9	352.0	346.0	339.1	337.1	332.1	329.1
45°	344.0	331.1	319.2	298.4	286.5	280.6	267.7	253.8	244.8	242.8	234.9
47.5°	301.3	282.5	262.7	238.0	226.0	215.1	196.3	184.5	172.5	166.6	161.6
50°	263.7	246.9	221.0	194.3	179.5	168.5	147.8	133.9	121.0	112.0	106.1
52.5°	231.0	212.2	188.4	157.6	142.8	130.8	108.1	92.2	81.3	72.3	65.5
55°	194.3	179.5	155.7	126.9	112.0	98.1	78.3	61.4	50.6	44.6	39.7
57.5°	167.5	154.6	131.9	104.1	90.2	77.3	57.5	43.6	34.7	28.8	25.8
60°	149.7	137.8	117.9	91.2	78.3	66.4	47.6	34.7	26.8	21.8	19.8
62.5°	134.8	122.9	105.1	80.3	69.4	57.5	40.6	28.8	21.8	17.9	14.9
65°	117.9	107.0	91.2	69.4	59.4	49.6	34.7	23.8	17.9	13.9	11.8
67.5°	100.2	90.2	76.4	57.5	49.6	41.7	27.8	19.8	14.9	11.8	9.9
70°	81.3	73.4	60.5	46.6	39.7	32.7	22.8	15.9	10.9	8.9	7.9
72.5°	62.5	55.5	46.6	35.6	29.7	24.7	16.8	11.8	8.9	7.0	5.9
75°	44.6	39.7	32.7	25.8	21.8	17.9	12.9	8.9	5.9	5.0	3.9
77.5°	30.7	27.8	22.8	17.9	14.9	12.9	8.9	5.9	5.0	3.9	3.0
80°	19.8	17.9	14.9	10.9	8.9	7.9	5.0	3.9	3.0	2.0	2.0
82.5°	11.8	10.9	8.9	5.9	5.0	3.9	3.0	2.0	2.0	1.1	1.1
85°	7.0	5.9	3.9	3.0	3.0	2.0	2.0	1.1	1.1	0.0	0.0
87.5°	3.0	2.0	2.0	1.1	1.1	1.1	1.1	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	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°	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4
2.5°	762.3	767.3	766.4	769.3	768.3	768.3	773.2	771.3	776.3	776.3	777.3
5°	773.2	780.2	780.2	785.2	784.2	786.1	791.1	791.1	797.0	799.0	799.0
7.5°	789.1	798.1	800.0	805.0	806.0	809.9	814.0	814.9	822.8	824.8	825.8
10°	811.0	821.9	824.8	829.8	831.7	835.7	840.7	842.7	852.6	853.5	857.5
12.5°	837.8	849.6	852.6	858.5	859.5	864.5	871.4	873.4	883.3	886.3	889.3
15°	863.5	874.3	879.3	885.2	886.3	892.2	898.1	900.2	909.1	913.1	916.0
17.5°	881.3	894.2	897.2	905.1	905.1	910.1	916.0	918.0	926.9	929.9	931.9
20°	885.2	897.2	901.2	907.1	908.1	911.0	916.0	918.0	926.0	926.9	929.9
22.5°	870.4	882.4	884.3	890.2	891.3	894.2	898.1	897.2	907.1	906.1	907.1
25°	838.7	849.6	849.6	856.6	855.6	858.5	860.5	859.5	868.4	868.4	868.4
27.5°	793.1	803.1	804.0	809.0	806.0	807.0	809.0	807.9	814.0	814.0	814.0
30°	736.6	744.6	741.5	745.5	743.5	745.5	743.5	742.6	744.6	746.5	745.5
32.5°	666.2	672.1	672.1	673.2	673.2	667.2	665.3	665.3	664.2	663.2	663.2
35°	584.9	589.8	587.9	587.9	586.9	581.0	578.0	576.0	578.9	573.0	576.9
37.5°	501.6	502.6	499.6	498.7	493.7	493.7	488.7	484.8	486.7	485.8	481.9
40°	410.5	414.4	408.5	406.4	409.4	405.5	400.5	395.6	399.5	394.6	396.6
42.5°	321.2	320.3	318.2	318.2	318.2	312.3	311.3	310.3	311.3	307.3	304.4
45°	232.0	229.0	226.0	226.0	222.1	220.1	220.1	217.1	212.2	212.2	206.2
47.5°	156.6	149.7	147.8	146.7	144.8	144.8	142.8	140.8	139.8	134.8	134.8
50°	102.1	95.2	93.2	92.2	93.2	91.2	89.3	87.3	85.2	84.3	82.3
52.5°	61.4	58.5	56.5	55.5	53.5	52.6	51.5	49.6	48.5	48.5	47.6
55°	36.7	33.7	29.7	29.7	29.7	28.8	27.8	26.8	25.8	25.8	24.7
57.5°	22.8	20.8	18.8	17.9	17.9	17.9	16.8	16.8	16.8	16.8	15.9
60°	16.8	14.9	13.9	13.9	13.9	12.9	12.9	12.9	12.9	11.8	11.8
62.5°	12.9	11.8	10.9	10.9	9.9	9.9	9.9	9.9	9.9	9.9	8.9
65°	10.9	8.9	8.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
67.5°	7.9	7.0	7.0	7.0	7.0	5.9	5.9	5.9	5.9	5.9	5.9
70°	5.9	5.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
72.5°	5.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
75°	3.9	3.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
77.5°	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	2.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	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	0.0	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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	759.4	759.4	759.4	759.4	759.4	759.4	759.4	759.4
2.5°	777.3	782.2	777.3	777.3	780.2	779.3	781.2	778.2
5°	800.0	807.0	802.0	801.1	806.0	805.0	806.0	804.0
7.5°	827.8	834.8	829.8	829.8	834.8	833.7	836.7	834.8
10°	859.5	867.5	860.5	861.5	868.4	867.5	867.5	867.5
12.5°	892.2	900.2	896.2	896.2	901.2	902.2	903.1	902.2
15°	919.0	926.9	922.0	922.0	928.9	928.0	928.9	928.0
17.5°	934.8	942.8	936.9	936.9	942.8	942.8	943.8	944.8
20°	930.9	939.8	934.8	932.8	939.8	939.8	938.9	938.9
22.5°	908.1	916.0	912.0	910.1	915.1	913.1	912.0	913.1
25°	868.4	876.4	868.4	868.4	872.4	871.4	872.4	871.4
27.5°	814.9	820.8	812.9	811.9	816.0	814.0	812.9	816.0
30°	743.5	749.4	745.5	742.6	747.5	744.6	742.6	743.5
32.5°	662.2	666.2	664.2	659.3	662.2	660.3	659.3	660.3
35°	573.0	578.0	570.1	569.0	574.0	570.1	568.1	573.0
37.5°	480.8	486.7	479.8	480.8	477.8	478.8	476.9	479.8
40°	393.5	392.6	390.6	389.6	390.6	387.6	389.6	386.7
42.5°	299.4	301.3	300.4	299.4	300.4	296.5	294.4	298.4
45°	208.1	207.2	205.2	203.2	203.2	202.2	202.2	199.3
47.5°	133.9	132.8	128.8	129.9	131.9	129.9	126.9	130.8
50°	81.3	80.3	80.3	79.3	81.3	79.3	77.3	77.3
52.5°	45.6	45.6	44.6	44.6	44.6	44.6	43.6	42.6
55°	24.7	23.8	23.8	23.8	22.8	22.8	22.8	22.8
57.5°	15.9	15.9	15.9	15.9	15.9	15.9	14.9	14.9
60°	11.8	11.8	11.8	11.8	10.9	11.8	10.9	10.9
62.5°	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
65°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
67.5°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
70°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
72.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
75°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)