

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: FAIL-SAFE

Report Number: P392566

Luminaire Tested: **MWL-3-27-28-UNV-L935-EDD**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P392566
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &
Test Lab: INNOVATION CENTER
Issue Date: 3/12/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-3-27-28-UNV-L935-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

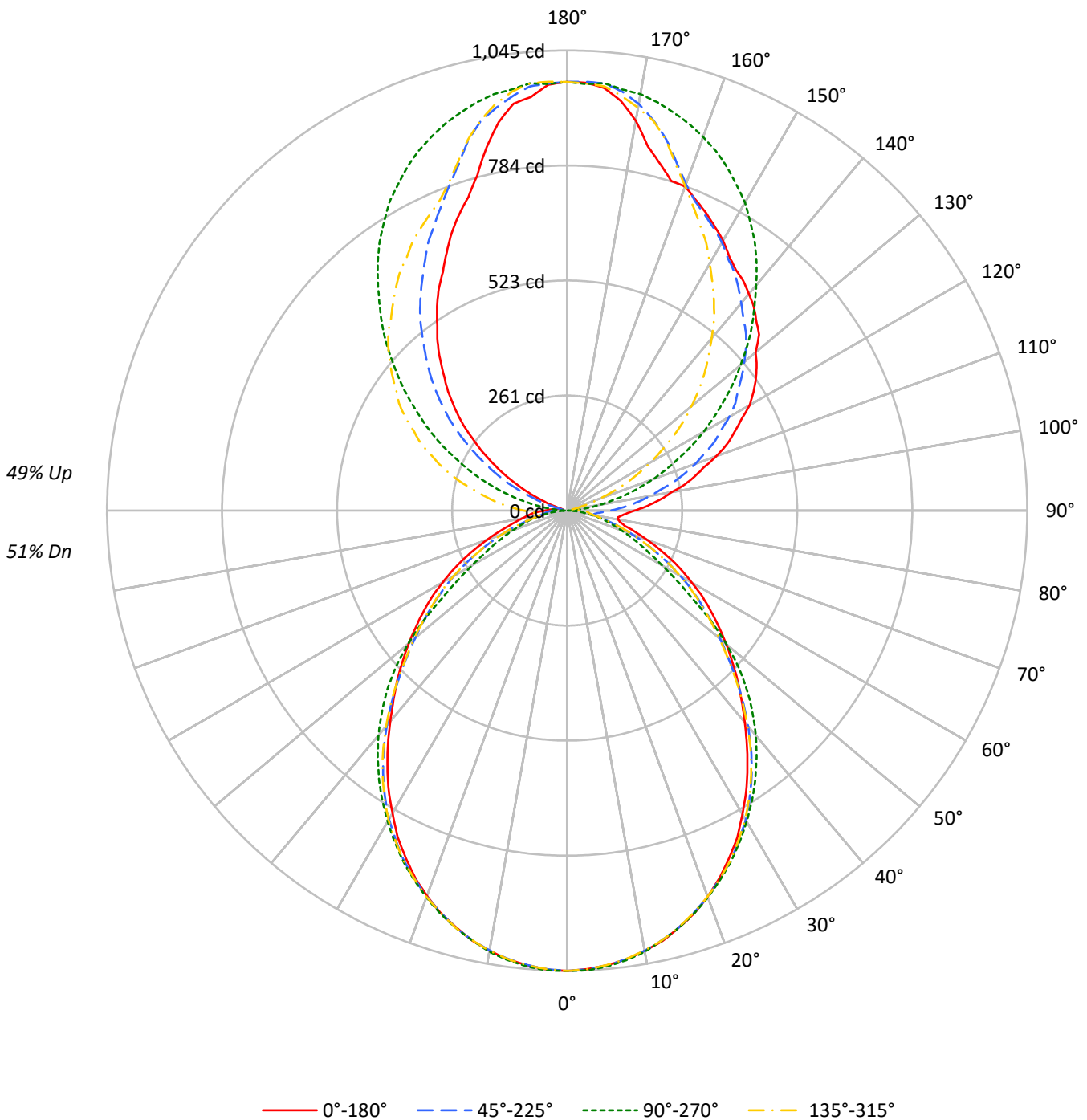
Lumens per Lamp: N/A
Luminaire Lumens: 4725.3 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 53.429
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	0
RCR																				
0	107	107	107	107	99	99	99	99	84	84	84		70	70	70		57	57	57	51
1	98	94	90	86	90	87	83	80	74	71	69		61	60	58		50	49	48	43
2	90	82	76	71	82	76	71	67	65	61	58		54	52	49		45	43	41	37
3	82	73	65	60	75	67	61	56	58	53	49		48	45	42		40	38	35	31
4	75	65	57	51	69	60	53	48	51	46	42		43	39	36		36	33	31	27
5	69	58	50	44	64	54	47	41	46	41	36		39	35	32		33	30	27	24
6	64	52	44	38	59	48	41	36	42	36	32		35	31	28		30	26	24	21
7	59	47	39	34	54	44	37	32	38	32	28		32	28	25		27	24	21	19
8	55	43	35	30	51	40	33	28	35	29	25		30	25	22		25	22	19	17
9	51	39	32	27	47	37	30	25	32	26	23		27	23	20		23	20	18	15
10	48	36	29	24	44	34	27	23	29	24	20		25	21	18		22	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9002	9002	9002	9002
5°	8851	8261	8851	8261
10°	8663	7563	8663	7563
15°	8428	6893	8410	6893
20°	8139	6280	8122	6280
25°	7768	5700	7750	5700
30°	7326	5138	7301	5138
35°	6839	4605	6818	4605
40°	6315	4075	6287	4075
45°	5858	3522	5834	3522
50°	5418	2888	5394	2888
55°	4995	2136	4976	2136
60°	4535	1573	4526	1573
65°	4054	1190	4054	1190
70°	3503	881	3515	881
75°	3002	637	3050	637
80°	3268	421	2907	421
85°	4773	174	3070	174



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.3	2.1
10°-20°	276.1	5.8
20°-30°	402.8	8.5
30°-40°	455.1	9.6
40°-50°	425.4	9.0
50°-60°	335.6	7.1
60°-70°	219.5	4.6
70°-80°	114.4	2.4
80°-90°	66.3	1.4
90°-100°	84.7	1.8
100°-110°	151.8	3.2
110°-120°	258.8	5.5
120°-130°	351.5	7.4
130°-140°	400.8	8.5
140°-150°	399.8	8.5
150°-160°	348.2	7.4
160°-170°	244.9	5.2
170°-180°	91.2	1.9
0°-30°	777.3	16.4
0°-40°	1232.4	26.1
0°-60°	1993.3	42.2
0°-90°	2393.5	50.7
90°-120°	495.3	10.5
90°-150°	1647.4	34.9
90°-180°	2332.0	49.4
0°-180°	4725.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1045	1045	1045	1045	1045	
5°	1036	1039	1036	1039	1036	98
15°	981	980	978	980	981	276
25°	870	880	868	880	870	400
35°	714	745	712	745	714	446
45°	548	578	546	578	548	423
55°	399	346	397	346	399	357
65°	258	184	258	184	258	256
75°	137	91	139	91	137	153
85°	125	22	80	22	125	100
90°	153	2	50	2	153	85
95°	196	28	33	28	196	170
105°	300	136	11	136	300	317
115°	418	278	96	278	418	415
125°	523	435	238	435	523	467
135°	608	594	382	594	608	469
145°	668	743	514	743	668	421
155°	746	860	647	860	746	344
165°	815	936	788	936	815	231
175°	964	974	943	974	964	90
180°	973	973	973	973	973	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4
2.5°	1042.4	1043.9	1042.6	1044.2	1045.1	1043.5	1042.6	1043.9	1043.2	1043.9	1042.6
5°	1036.4	1037.9	1036.7	1037.6	1039.3	1037.6	1036.0	1037.9	1036.4	1037.9	1036.0
7.5°	1027.9	1029.3	1027.5	1029.1	1030.0	1028.4	1026.9	1028.6	1027.9	1028.6	1026.9
10°	1015.0	1015.7	1014.9	1015.7	1017.4	1015.0	1014.2	1014.3	1015.0	1014.3	1014.2
12.5°	1001.1	1000.4	998.9	999.8	999.1	999.8	998.9	999.1	999.8	999.1	998.9
15°	980.6	980.9	980.3	981.9	980.4	981.3	979.6	979.6	978.5	979.6	979.6
17.5°	959.4	958.9	957.3	959.2	959.2	959.2	956.7	958.2	957.3	958.2	956.7
20°	933.1	934.1	933.6	935.5	934.7	934.7	932.9	932.7	931.1	932.7	932.9
22.5°	903.5	905.3	905.6	909.2	907.6	908.4	904.9	903.9	902.2	903.9	904.9
25°	870.5	873.1	878.3	880.3	879.6	879.6	877.0	871.0	868.5	871.0	877.0
27.5°	836.6	839.1	844.3	848.8	848.2	848.1	843.1	837.1	834.5	837.1	843.1
30°	795.9	800.9	811.1	816.4	815.1	815.0	809.1	799.0	793.1	799.0	809.1
32.5°	756.8	761.1	772.1	781.6	781.1	780.2	770.1	758.3	754.1	758.3	770.1
35°	713.8	716.3	730.8	743.5	744.8	741.3	728.6	714.2	711.6	714.2	728.6
37.5°	670.6	671.4	686.6	704.5	706.5	702.3	684.5	669.3	668.4	669.3	684.5
40°	627.3	625.6	639.2	660.5	666.7	659.1	636.4	622.8	624.5	622.8	636.4
42.5°	586.6	580.6	591.9	615.6	623.4	614.1	589.7	577.9	583.8	577.9	589.7
45°	547.8	537.6	543.5	564.7	578.4	563.3	540.7	535.4	545.6	535.4	540.7
47.5°	508.8	499.4	496.9	514.0	529.2	513.3	494.1	497.3	506.6	497.3	494.1
50°	471.4	461.2	453.6	464.0	472.5	462.5	450.8	458.5	469.3	458.5	450.8
52.5°	434.1	424.8	412.2	413.9	410.7	412.5	410.1	422.0	432.0	422.0	410.1
55°	398.7	390.2	373.2	364.8	345.5	363.5	371.1	388.0	397.2	388.0	371.1
57.5°	364.7	357.1	335.9	314.8	293.7	313.4	333.8	355.0	363.3	355.0	333.8
60°	326.7	322.4	297.8	265.8	249.6	265.1	296.5	321.1	326.0	321.1	296.5
62.5°	292.8	287.7	259.6	224.2	211.7	223.6	258.4	286.3	292.1	286.3	258.4
65°	258.2	250.5	221.7	186.9	183.7	186.2	221.0	249.8	258.2	249.8	221.0
67.5°	223.4	215.7	188.6	157.4	154.9	157.4	187.9	215.0	223.4	215.0	187.9
70°	192.2	180.3	156.5	129.4	131.1	129.4	156.5	181.0	192.9	181.0	156.5
72.5°	163.3	146.3	128.6	106.5	110.1	105.8	128.6	147.0	164.7	147.0	128.6
75°	137.0	118.4	99.9	85.5	90.6	85.5	100.6	119.1	139.2	119.1	100.6
77.5°	123.0	99.1	77.8	67.7	74.5	67.7	78.5	97.0	120.4	97.0	78.5
80°	117.8	91.7	62.9	51.6	56.6	51.6	61.5	80.8	104.8	80.8	61.5
82.5°	116.4	94.1	61.1	36.3	38.8	36.3	52.7	69.5	90.3	69.5	52.7
85°	125.0	104.6	67.7	29.9	21.9	28.5	47.7	62.6	80.4	62.6	47.7
87.5°	137.0	122.4	80.9	33.4	6.0	23.8	41.7	56.4	66.4	56.4	41.7
90°	152.8	141.7	98.8	41.9	1.6	15.8	30.7	44.9	49.8	44.9	30.7
92.5°	175.4	163.9	119.1	57.2	11.9	9.8	24.9	36.7	40.8	36.7	24.9
95°	196.3	190.4	142.7	74.0	28.3	5.3	19.0	31.1	33.4	31.1	19.0
97.5°	219.7	214.6	167.0	97.0	49.6	9.1	15.2	25.6	27.3	25.6	15.2
100°	240.6	237.4	191.1	126.6	75.8	23.5	9.1	21.7	24.2	21.7	9.1
102.5°	273.8	262.2	215.9	154.8	104.0	43.4	11.2	14.8	18.2	14.8	11.2
105°	300.0	287.1	249.6	184.4	136.2	70.2	27.6	10.8	10.8	10.8	27.6
107.5°	325.4	318.5	279.8	214.5	170.6	101.1	51.1	27.1	17.4	27.1	51.1
110°	359.7	351.5	309.3	244.8	206.3	134.2	77.8	49.1	38.1	49.1	77.8



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CATALOG NUMBER: MWL-3-27-28-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	392.7	386.5	337.0	276.4	243.4	169.8	110.8	76.5	66.4	76.5	110.8
115°	418.2	414.7	369.3	306.0	277.9	210.5	148.1	108.9	96.5	108.9	148.1
117.5°	445.0	444.3	392.7	336.2	319.0	246.9	181.7	141.2	128.1	141.2	181.7
120°	478.7	473.1	425.1	366.5	358.2	285.4	218.9	178.4	165.2	178.4	218.9
122.5°	501.9	498.6	452.5	395.3	395.3	324.5	254.6	214.1	200.3	214.1	254.6
125°	523.3	521.9	473.1	424.2	435.2	361.0	294.4	253.3	238.2	253.3	294.4
127.5°	542.5	544.6	499.9	455.7	475.6	398.1	333.6	288.2	272.5	288.2	333.6
130°	559.0	565.9	525.3	484.7	514.2	438.6	368.6	323.2	313.0	323.2	368.6
132.5°	591.3	587.2	551.5	514.2	555.4	475.6	405.8	358.4	346.7	358.4	405.8
135°	607.7	609.1	574.1	540.4	593.8	513.7	440.8	394.1	382.4	394.1	440.8
137.5°	627.7	623.6	592.0	571.4	629.7	549.3	475.1	431.9	413.3	431.9	475.1
140°	642.2	641.5	615.3	598.9	668.1	584.4	510.2	466.2	449.1	466.2	510.2
142.5°	657.3	661.4	638.7	629.1	706.5	621.5	548.0	499.9	483.4	499.9	548.0
145°	667.5	676.6	662.0	666.8	743.0	662.7	581.0	532.2	514.3	532.2	581.0
147.5°	684.8	696.4	679.3	693.7	774.6	699.2	614.0	565.9	550.0	565.9	614.0
150°	708.1	713.6	703.3	730.8	807.8	739.8	647.6	598.2	582.4	598.2	647.6
152.5°	726.6	733.6	721.8	771.3	833.2	776.9	684.8	629.7	611.3	629.7	684.8
155°	745.9	748.7	740.5	810.5	860.0	813.3	714.3	664.9	647.0	664.9	714.3
157.5°	763.8	769.3	759.7	840.0	883.4	844.9	748.0	699.9	684.1	699.9	748.0
160°	783.1	783.1	788.5	874.4	902.7	872.4	783.8	738.4	716.4	738.4	783.8
162.5°	785.1	798.2	827.7	898.5	921.1	896.5	822.2	765.8	746.6	765.8	822.2
165°	815.3	827.0	871.7	919.8	935.6	917.8	869.6	811.2	788.5	811.2	869.6
167.5°	846.9	871.7	907.4	943.8	949.4	937.6	906.0	865.5	844.9	865.5	906.0
170°	898.5	919.8	937.6	952.7	960.3	953.4	928.7	908.7	895.7	908.7	928.7
172.5°	938.1	952.7	959.6	969.3	964.5	961.7	949.4	939.7	932.0	939.7	949.4
175°	963.6	967.1	973.4	970.0	974.0	966.5	967.1	972.0	943.0	972.0	967.1
177.5°	972.5	978.2	974.7	968.5	969.3	967.8	970.7	973.4	968.4	973.4	970.7
180°	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4	973.4



TEST NUMBER: P392566

CATALOG NUMBER: MWL-3-27-28-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4
2.5°	1043.5	1045.1	1044.2	1042.6	1043.9	1042.4
5°	1037.6	1039.3	1037.6	1036.7	1037.9	1036.4
7.5°	1028.4	1030.0	1029.1	1027.5	1029.3	1027.9
10°	1015.0	1017.4	1015.7	1014.9	1015.7	1015.0
12.5°	999.8	999.1	999.8	998.9	1000.4	1001.1
15°	981.3	980.4	981.9	980.3	980.9	980.6
17.5°	959.2	959.2	959.2	957.3	958.9	959.4
20°	934.7	934.7	935.5	933.6	934.1	933.1
22.5°	908.4	907.6	909.2	905.6	905.3	903.5
25°	879.6	879.6	880.3	878.3	873.1	870.5
27.5°	848.1	848.2	848.8	844.3	839.1	836.6
30°	815.0	815.1	816.4	811.1	800.9	795.9
32.5°	780.2	781.1	781.6	772.1	761.1	756.8
35°	741.3	744.8	743.5	730.8	716.3	713.8
37.5°	702.3	706.5	704.5	686.6	671.4	670.6
40°	659.1	666.7	660.5	639.2	625.6	627.3
42.5°	614.1	623.4	615.6	591.9	580.6	586.6
45°	563.3	578.4	564.7	543.5	537.6	547.8
47.5°	513.3	529.2	514.0	496.9	499.4	508.8
50°	462.5	472.5	464.0	453.6	461.2	471.4
52.5°	412.5	410.7	413.9	412.2	424.8	434.1
55°	363.5	345.5	364.8	373.2	390.2	398.7
57.5°	313.4	293.7	314.8	335.9	357.1	364.7
60°	265.1	249.6	265.8	297.8	322.4	326.7
62.5°	223.6	211.7	224.2	259.6	287.7	292.8
65°	186.2	183.7	186.9	221.7	250.5	258.2
67.5°	157.4	154.9	157.4	188.6	215.7	223.4
70°	129.4	131.1	129.4	156.5	180.3	192.2
72.5°	105.8	110.1	106.5	128.6	146.3	163.3
75°	85.5	90.6	85.5	99.9	118.4	137.0
77.5°	67.7	74.5	67.7	77.8	99.1	123.0
80°	51.6	56.6	51.6	62.9	91.7	117.8
82.5°	36.3	38.8	36.3	61.1	94.1	116.4
85°	28.5	21.9	29.9	67.7	104.6	125.0
87.5°	23.8	6.0	33.4	80.9	122.4	137.0
90°	15.8	1.6	41.9	98.8	141.7	152.8
92.5°	9.8	11.9	57.2	119.1	163.9	175.4
95°	5.3	28.3	74.0	142.7	190.4	196.3
97.5°	9.1	49.6	97.0	167.0	214.6	219.7
100°	23.5	75.8	126.6	191.1	237.4	240.6
102.5°	43.4	104.0	154.8	215.9	262.2	273.8
105°	70.2	136.2	184.4	249.6	287.1	300.0
107.5°	101.1	170.6	214.5	279.8	318.5	325.4
110°	134.2	206.3	244.8	309.3	351.5	359.7



TEST NUMBER: P392566

CATALOG NUMBER: MWL-3-27-28-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	169.8	243.4	276.4	337.0	386.5	392.7
115°	210.5	277.9	306.0	369.3	414.7	418.2
117.5°	246.9	319.0	336.2	392.7	444.3	445.0
120°	285.4	358.2	366.5	425.1	473.1	478.7
122.5°	324.5	395.3	395.3	452.5	498.6	501.9
125°	361.0	435.2	424.2	473.1	521.9	523.3
127.5°	398.1	475.6	455.7	499.9	544.6	542.5
130°	438.6	514.2	484.7	525.3	565.9	559.0
132.5°	475.6	555.4	514.2	551.5	587.2	591.3
135°	513.7	593.8	540.4	574.1	609.1	607.7
137.5°	549.3	629.7	571.4	592.0	623.6	627.7
140°	584.4	668.1	598.9	615.3	641.5	642.2
142.5°	621.5	706.5	629.1	638.7	661.4	657.3
145°	662.7	743.0	666.8	662.0	676.6	667.5
147.5°	699.2	774.6	693.7	679.3	696.4	684.8
150°	739.8	807.8	730.8	703.3	713.6	708.1
152.5°	776.9	833.2	771.3	721.8	733.6	726.6
155°	813.3	860.0	810.5	740.5	748.7	745.9
157.5°	844.9	883.4	840.0	759.7	769.3	763.8
160°	872.4	902.7	874.4	788.5	783.1	783.1
162.5°	896.5	921.1	898.5	827.7	798.2	785.1
165°	917.8	935.6	919.8	871.7	827.0	815.3
167.5°	937.6	949.4	943.8	907.4	871.7	846.9
170°	953.4	960.3	952.7	937.6	919.8	898.5
172.5°	961.7	964.5	969.3	959.6	952.7	938.1
175°	966.5	974.0	970.0	973.4	967.1	963.6
177.5°	967.8	969.3	968.5	974.7	978.2	972.5
180°	973.4	973.4	973.4	973.4	973.4	973.4

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