

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: P392564

Luminaire Tested: **MWL-3-27-25-UNV-L940-EDD**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P392564
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-3-27-25-UNV-L940-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

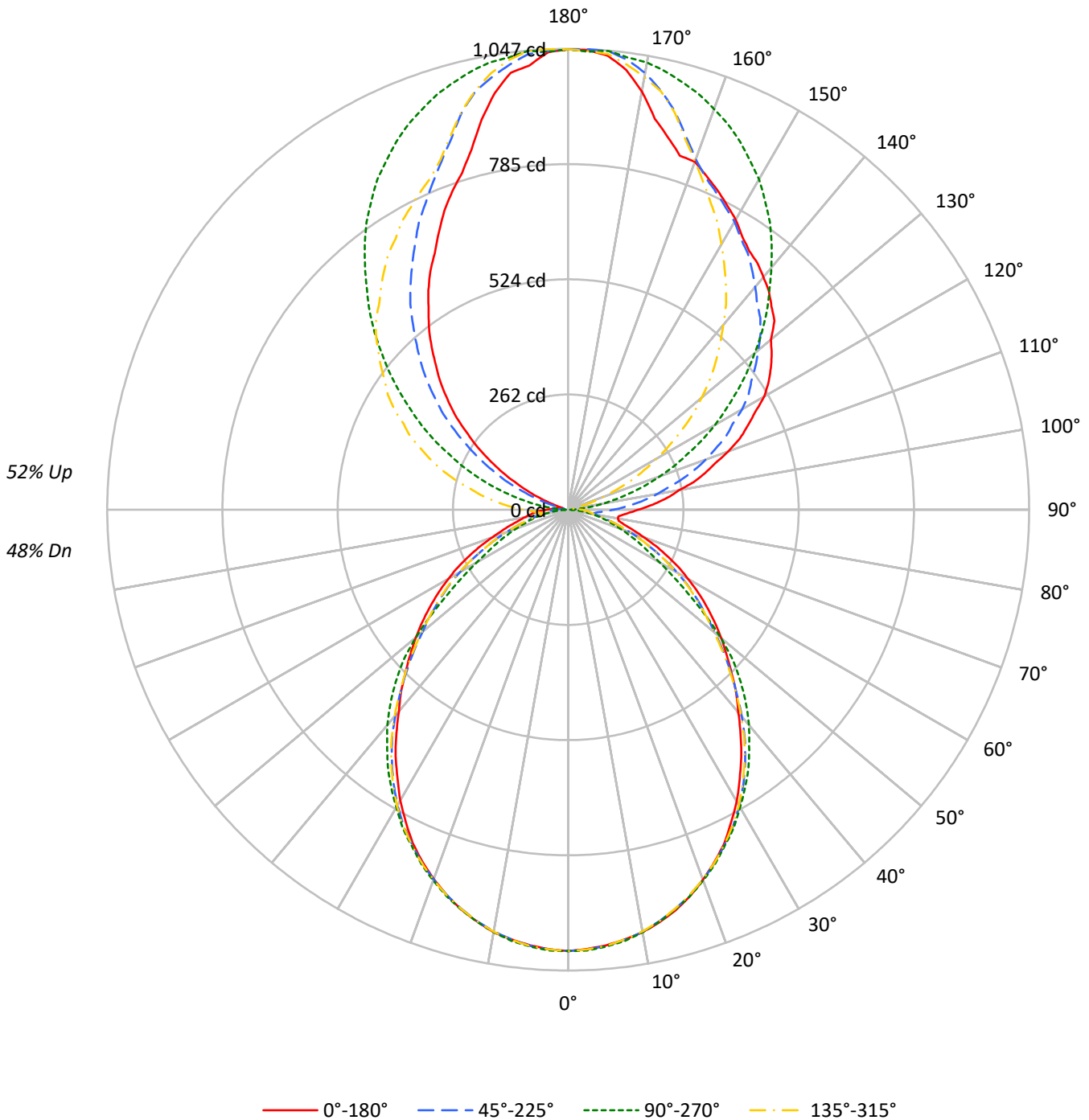
Lumens per Lamp: N/A
Luminaire Lumens: 4800.7 lumens
Efficiency: N/A
Efficacy: 96.6 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 49.692
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									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	50	30	10	0														
RCR																																						
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48	48	48	48	48	48	48														
1	97	93	89	86	89	86	83	80	72	70	68	60	58	56	48	47	46	41	41	41	41	41	41	41														
2	89	82	76	71	82	75	70	66	64	60	57	53	50	48	43	41	39	34	34	34	34	34	34	34														
3	81	72	65	59	75	67	60	55	56	52	48	47	44	41	38	36	34	30	30	30	30	30	30	30														
4	75	64	56	50	68	59	53	47	50	45	41	42	38	35	34	32	29	26	26	26	26	26	26	26														
5	69	57	49	43	63	53	46	41	45	40	36	38	34	31	31	28	26	23	23	23	23	23	23	23														
6	63	51	43	38	58	48	41	36	41	35	31	34	30	27	28	25	23	20	20	20	20	20	20	20														
7	59	46	39	33	54	43	36	31	37	32	28	31	27	24	26	23	20	18	18	18	18	18	18	18														
8	54	42	35	29	50	39	33	28	34	28	25	29	25	21	24	21	18	16	16	16	16	16	16	16														
9	51	39	31	26	47	36	29	25	31	26	22	26	22	19	22	19	17	15	15	15	15	15	15	15														
10	47	35	28	24	44	33	27	22	29	24	20	24	20	18	21	17	15	13	13	13	13	13	13	13														

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	8635	8635	8635	8635
5°	8482	7918	8482	7918
10°	8319	7244	8319	7244
15°	8099	6611	8080	6611
20°	7806	6024	7787	6024
25°	7475	5455	7456	5455
30°	7048	4923	7021	4923
35°	6569	4417	6547	4417
40°	6052	3905	6020	3905
45°	5611	3373	5586	3373
50°	5214	2763	5188	2763
55°	4807	2058	4787	2058
60°	4366	1507	4356	1507
65°	3883	1143	3883	1143
70°	3315	842	3328	842
75°	2886	614	2936	614
80°	3182	398	2793	398
85°	4815	172	2986	172



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.3	2.0
10°-20°	264.8	5.5
20°-30°	386.4	8.0
30°-40°	436.4	9.1
40°-50°	408.4	8.5
50°-60°	322.4	6.7
60°-70°	210.7	4.4
70°-80°	109.8	2.3
80°-90°	65.7	1.4
90°-100°	88.8	1.9
100°-110°	162.8	3.4
110°-120°	277.9	5.8
120°-130°	377.4	7.9
130°-140°	430.5	9.0
140°-150°	429.5	8.9
150°-160°	373.9	7.8
160°-170°	263.0	5.5
170°-180°	98.0	2.0
0°-30°	745.5	15.5
0°-40°	1181.9	24.6
0°-60°	1912.7	39.8
0°-90°	2298.9	47.9
90°-120°	529.6	11.0
90°-150°	1766.9	36.8
90°-180°	2502.0	52.1
0°-180°	4800.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1003	1003	1003	1003	1003	
5°	993	996	993	996	993	94
15°	942	940	940	940	942	265
25°	838	842	836	842	838	384
35°	686	714	683	714	686	428
45°	525	554	522	554	525	406
55°	384	333	382	333	384	343
65°	247	176	247	176	247	246
75°	132	87	134	87	132	146
85°	126	22	78	22	126	101
90°	159	1	48	1	159	88
95°	207	30	32	30	207	180
105°	321	146	11	146	321	339
115°	449	298	104	298	449	446
125°	562	468	256	468	562	502
135°	653	638	411	638	653	504
145°	717	798	553	798	717	452
155°	801	923	695	923	801	370
165°	876	1005	847	1005	876	248
175°	1035	1046	1013	1046	1035	97
180°	1046	1046	1046	1046	1046	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1002.8	1002.8	1002.8	1002.8	1002.8	1002.8	1002.8	1002.8	1002.8	1002.8	1002.8
2.5°	998.7	1002.0	999.8	1001.5	1002.4	1000.8	999.8	1002.0	999.5	1002.0	999.8
5°	993.2	996.6	995.3	995.3	996.2	995.3	994.6	996.6	993.2	996.6	994.6
7.5°	984.9	987.3	985.4	987.1	988.0	986.4	984.7	986.5	984.9	986.5	984.7
10°	974.7	974.5	973.6	974.5	974.5	973.8	972.9	973.1	974.7	973.1	972.9
12.5°	959.8	958.1	957.4	959.2	958.5	959.2	957.4	956.7	958.3	956.7	957.4
15°	942.3	940.8	939.2	941.0	940.3	940.3	938.4	939.3	940.1	939.3	938.4
17.5°	920.4	918.9	918.2	920.2	920.2	920.2	917.5	918.2	918.2	918.2	917.5
20°	894.9	896.0	894.5	897.4	896.6	896.6	893.8	894.5	892.7	894.5	893.8
22.5°	866.8	868.6	869.0	871.0	871.1	870.2	868.3	867.2	865.4	867.2	868.3
25°	837.7	836.8	840.6	844.6	841.9	843.8	839.1	834.6	835.5	834.6	839.1
27.5°	801.2	806.7	810.5	815.3	814.6	814.5	809.1	804.5	799.0	804.5	809.1
30°	765.7	768.4	777.5	783.2	780.9	781.7	775.3	766.2	762.7	766.2	775.3
32.5°	724.7	730.2	740.2	749.5	748.0	748.0	738.0	727.1	721.7	727.1	738.0
35°	685.7	687.5	700.3	713.0	714.4	710.7	698.0	685.2	683.4	685.2	698.0
37.5°	643.0	644.8	659.4	674.8	675.1	672.5	657.1	642.5	640.7	642.5	657.1
40°	601.1	602.0	613.8	634.0	638.8	632.5	610.8	599.0	598.0	599.0	610.8
42.5°	564.6	558.2	566.6	590.3	597.8	588.8	564.3	555.2	561.6	555.2	564.3
45°	524.7	517.4	522.0	543.8	554.0	542.3	519.0	515.1	522.4	515.1	519.0
47.5°	488.3	479.1	478.2	493.9	508.5	493.1	475.2	476.9	486.0	476.9	475.2
50°	453.6	442.7	434.5	445.6	452.1	444.1	431.5	439.7	451.4	439.7	431.5
52.5°	419.0	408.1	395.5	398.2	391.0	396.7	393.2	405.1	416.7	405.1	393.2
55°	383.7	374.6	359.1	350.0	332.9	348.6	356.8	372.3	382.1	372.3	356.8
57.5°	350.0	342.7	323.5	303.6	282.8	302.1	321.3	340.4	348.4	340.4	321.3
60°	314.5	310.9	285.4	256.4	239.1	255.7	283.9	309.4	313.8	309.4	283.9
62.5°	282.6	276.2	248.9	215.4	203.7	214.7	247.5	274.8	281.9	274.8	247.5
65°	247.3	242.7	211.7	181.7	176.4	180.9	211.0	242.0	247.3	242.0	211.0
67.5°	215.4	206.3	180.8	149.1	149.1	149.1	180.0	205.5	215.4	205.5	180.0
70°	181.9	172.7	149.1	124.5	125.4	124.5	149.1	173.5	182.6	173.5	149.1
72.5°	155.4	141.8	121.7	101.7	104.6	100.9	121.7	142.5	156.9	142.5	121.7
75°	131.7	115.3	96.4	82.7	87.3	82.7	97.1	116.1	134.0	116.1	97.1
77.5°	117.6	95.6	75.4	64.5	70.0	64.5	76.2	93.3	114.7	93.3	76.2
80°	114.7	89.5	61.2	49.0	53.6	49.0	59.8	77.6	100.7	77.6	59.8
82.5°	115.1	93.8	59.2	35.4	37.2	35.4	50.3	67.3	87.0	67.3	50.3
85°	126.1	106.0	67.2	28.4	21.7	27.0	45.8	61.0	78.2	61.0	45.8
87.5°	140.9	126.0	82.3	34.1	6.4	23.8	40.2	55.1	64.9	55.1	40.2
90°	158.7	147.7	103.4	43.2	0.7	15.1	30.2	43.6	48.0	43.6	30.2
92.5°	183.0	172.4	125.2	60.6	12.8	9.7	24.1	35.7	38.4	35.7	24.1
95°	207.3	201.0	151.5	78.6	30.4	4.7	18.6	29.7	32.3	29.7	18.6
97.5°	233.3	227.9	177.6	104.2	53.3	9.7	14.5	24.8	26.6	24.8	14.5
100°	255.7	253.2	205.4	136.0	81.4	25.2	9.7	21.4	23.2	21.4	9.7
102.5°	292.4	280.8	232.0	166.3	111.7	46.6	12.0	15.0	17.8	15.0	12.0
105°	321.4	308.4	268.1	198.1	146.3	75.4	29.7	11.6	10.7	11.6	29.7
107.5°	349.6	342.2	300.7	230.5	183.3	108.7	54.8	29.2	18.8	29.2	54.8
110°	386.5	377.7	332.4	263.0	221.7	144.1	83.6	52.8	40.9	52.8	83.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	421.9	415.3	362.0	296.9	261.5	182.5	119.1	82.3	71.2	82.3	119.1
115°	449.3	445.5	395.9	328.7	298.5	226.1	158.2	117.0	103.7	117.0	158.2
117.5°	478.1	477.3	421.0	361.2	342.8	265.2	194.3	151.7	137.7	151.7	194.3
120°	514.2	508.3	455.7	393.7	384.8	306.6	234.2	191.6	177.6	191.6	234.2
122.5°	539.3	535.6	485.3	424.7	424.7	348.7	272.6	230.0	215.2	230.0	272.6
125°	562.1	560.7	507.4	455.7	467.5	387.8	315.4	272.1	255.8	272.1	315.4
127.5°	582.8	585.1	536.2	489.6	511.0	427.7	357.5	309.7	292.7	309.7	357.5
130°	600.6	608.0	563.5	520.7	552.4	471.2	395.1	347.3	336.3	347.3	395.1
132.5°	635.3	630.8	592.5	552.4	596.7	511.0	436.0	385.0	372.5	385.0	436.0
135°	653.0	654.4	616.8	579.7	638.0	550.9	473.6	423.4	410.8	423.4	473.6
137.5°	674.3	669.9	635.1	613.0	676.4	589.3	509.6	464.0	444.1	464.0	509.6
140°	689.8	689.1	661.1	643.4	717.7	627.9	548.2	500.9	482.4	500.9	548.2
142.5°	706.1	710.5	686.1	674.9	759.0	666.7	588.8	537.1	519.3	537.1	588.8
145°	717.1	726.8	711.2	716.4	798.2	711.9	624.2	571.8	552.6	571.8	624.2
147.5°	735.6	748.2	729.7	745.2	832.1	751.1	659.6	608.0	590.9	608.0	659.6
150°	760.7	766.6	755.6	785.1	866.8	794.7	695.7	642.7	625.7	642.7	695.7
152.5°	780.6	788.0	774.5	827.7	894.2	833.7	734.7	676.5	656.7	676.5	734.7
155°	801.3	804.2	795.4	869.8	922.9	872.7	767.3	714.2	695.0	714.2	767.3
157.5°	820.5	826.4	816.1	901.5	948.1	906.7	803.5	751.8	734.9	751.8	803.5
160°	841.2	841.2	847.0	939.3	968.8	937.2	841.9	793.2	769.6	793.2	841.9
162.5°	843.4	856.5	889.1	965.2	989.5	963.0	883.2	821.8	802.0	821.8	883.2
165°	875.8	887.5	936.4	988.1	1005.0	985.9	934.2	870.6	847.0	870.6	934.2
167.5°	909.8	935.5	974.8	1014.0	1019.9	1007.3	973.3	928.9	907.6	928.9	973.3
170°	964.3	987.2	1007.3	1023.5	1031.6	1024.3	997.7	975.3	961.3	975.3	997.7
172.5°	1007.9	1022.6	1030.9	1041.3	1036.1	1033.1	1019.9	1008.6	1001.2	1008.6	1019.9
175°	1035.2	1038.1	1045.7	1042.0	1046.4	1038.3	1039.0	1043.3	1013.1	1043.3	1039.0
177.5°	1044.8	1050.0	1047.1	1040.5	1041.3	1039.7	1042.8	1044.8	1040.4	1044.8	1042.8
180°	1045.7	1045.7	1045.7	1045.7	1045.7	1045.7	1045.7	1045.7	1045.7	1045.7	1045.7



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1002.8	1002.8	1002.8	1002.8	1002.8	1002.8
2.5°	1000.8	1002.4	1001.5	999.8	1002.0	998.7
5°	995.3	996.2	995.3	995.3	996.6	993.2
7.5°	986.4	988.0	987.1	985.4	987.3	984.9
10°	973.8	974.5	974.5	973.6	974.5	974.7
12.5°	959.2	958.5	959.2	957.4	958.1	959.8
15°	940.3	940.3	941.0	939.2	940.8	942.3
17.5°	920.2	920.2	920.2	918.2	918.9	920.4
20°	896.6	896.6	897.4	894.5	896.0	894.9
22.5°	870.2	871.1	871.0	869.0	868.6	866.8
25°	843.8	841.9	844.6	840.6	836.8	837.7
27.5°	814.5	814.6	815.3	810.5	806.7	801.2
30°	781.7	780.9	783.2	777.5	768.4	765.7
32.5°	748.0	748.0	749.5	740.2	730.2	724.7
35°	710.7	714.4	713.0	700.3	687.5	685.7
37.5°	672.5	675.1	674.8	659.4	644.8	643.0
40°	632.5	638.8	634.0	613.8	602.0	601.1
42.5°	588.8	597.8	590.3	566.6	558.2	564.6
45°	542.3	554.0	543.8	522.0	517.4	524.7
47.5°	493.1	508.5	493.9	478.2	479.1	488.3
50°	444.1	452.1	445.6	434.5	442.7	453.6
52.5°	396.7	391.0	398.2	395.5	408.1	419.0
55°	348.6	332.9	350.0	359.1	374.6	383.7
57.5°	302.1	282.8	303.6	323.5	342.7	350.0
60°	255.7	239.1	256.4	285.4	310.9	314.5
62.5°	214.7	203.7	215.4	248.9	276.2	282.6
65°	180.9	176.4	181.7	211.7	242.7	247.3
67.5°	149.1	149.1	149.1	180.8	206.3	215.4
70°	124.5	125.4	124.5	149.1	172.7	181.9
72.5°	100.9	104.6	101.7	121.7	141.8	155.4
75°	82.7	87.3	82.7	96.4	115.3	131.7
77.5°	64.5	70.0	64.5	75.4	95.6	117.6
80°	49.0	53.6	49.0	61.2	89.5	114.7
82.5°	35.4	37.2	35.4	59.2	93.8	115.1
85°	27.0	21.7	28.4	67.2	106.0	126.1
87.5°	23.8	6.4	34.1	82.3	126.0	140.9
90°	15.1	0.7	43.2	103.4	147.7	158.7
92.5°	9.7	12.8	60.6	125.2	172.4	183.0
95°	4.7	30.4	78.6	151.5	201.0	207.3
97.5°	9.7	53.3	104.2	177.6	227.9	233.3
100°	25.2	81.4	136.0	205.4	253.2	255.7
102.5°	46.6	111.7	166.3	232.0	280.8	292.4
105°	75.4	146.3	198.1	268.1	308.4	321.4
107.5°	108.7	183.3	230.5	300.7	342.2	349.6
110°	144.1	221.7	263.0	332.4	377.7	386.5



TEST NUMBER: P392564

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	182.5	261.5	296.9	362.0	415.3	421.9
115°	226.1	298.5	328.7	395.9	445.5	449.3
117.5°	265.2	342.8	361.2	421.0	477.3	478.1
120°	306.6	384.8	393.7	455.7	508.3	514.2
122.5°	348.7	424.7	424.7	485.3	535.6	539.3
125°	387.8	467.5	455.7	507.4	560.7	562.1
127.5°	427.7	511.0	489.6	536.2	585.1	582.8
130°	471.2	552.4	520.7	563.5	608.0	600.6
132.5°	511.0	596.7	552.4	592.5	630.8	635.3
135°	550.9	638.0	579.7	616.8	654.4	653.0
137.5°	589.3	676.4	613.0	635.1	669.9	674.3
140°	627.9	717.7	643.4	661.1	689.1	689.8
142.5°	666.7	759.0	674.9	686.1	710.5	706.1
145°	711.9	798.2	716.4	711.2	726.8	717.1
147.5°	751.1	832.1	745.2	729.7	748.2	735.6
150°	794.7	866.8	785.1	755.6	766.6	760.7
152.5°	833.7	894.2	827.7	774.5	788.0	780.6
155°	872.7	922.9	869.8	795.4	804.2	801.3
157.5°	906.7	948.1	901.5	816.1	826.4	820.5
160°	937.2	968.8	939.3	847.0	841.2	841.2
162.5°	963.0	989.5	965.2	889.1	856.5	843.4
165°	985.9	1005.0	988.1	936.4	887.5	875.8
167.5°	1007.3	1019.9	1014.0	974.8	935.5	909.8
170°	1024.3	1031.6	1023.5	1007.3	987.2	964.3
172.5°	1033.1	1036.1	1041.3	1030.9	1022.6	1007.9
175°	1038.3	1046.4	1042.0	1045.7	1038.1	1035.2
177.5°	1039.7	1041.3	1040.5	1047.1	1050.0	1044.8
180°	1045.7	1045.7	1045.7	1045.7	1045.7	1045.7

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