

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: P392657

Luminaire Tested: **MWL-4-34-25-UNV-L840-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392657
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-4-34-25-UNV-L840-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

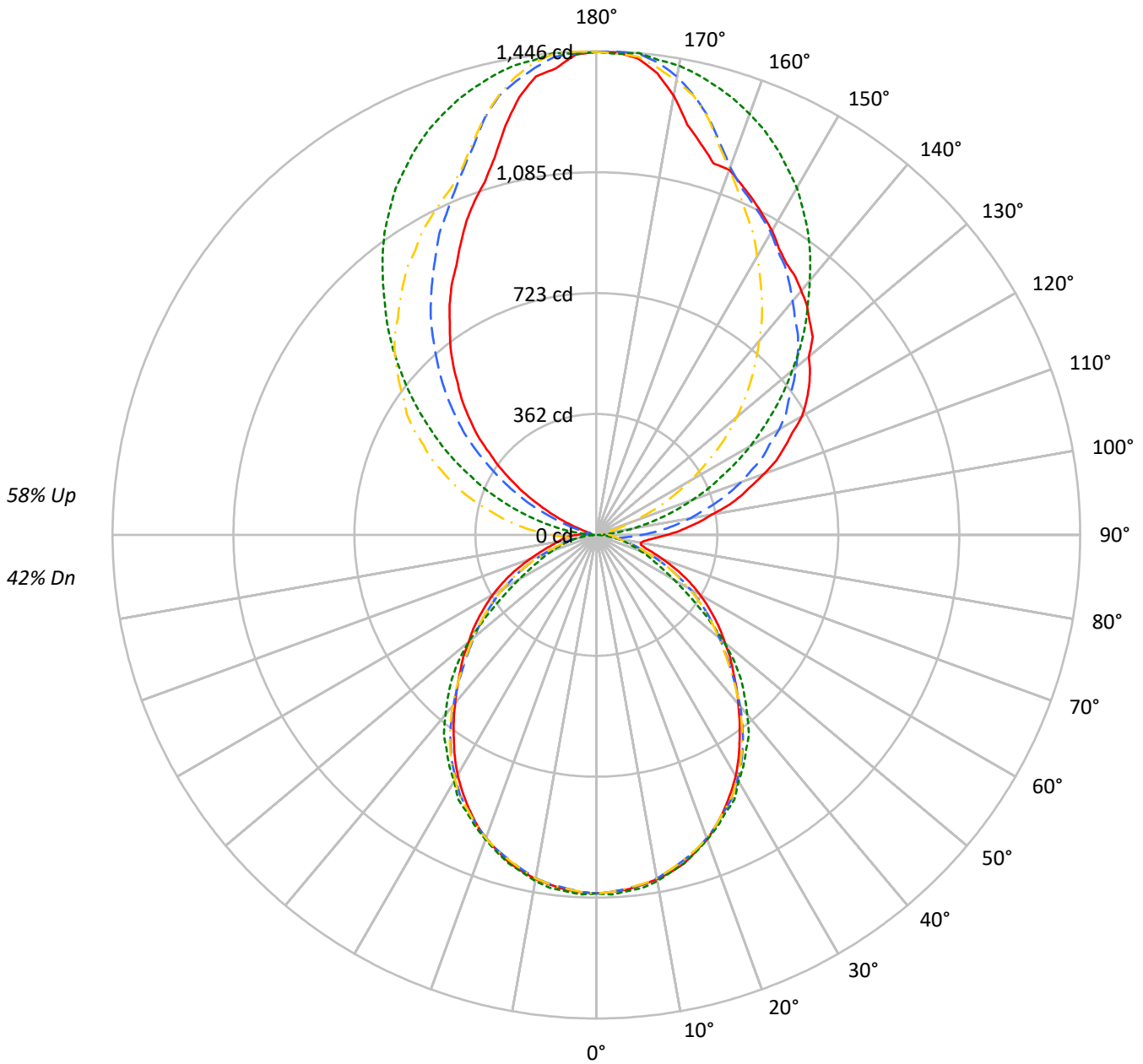
Lumens per Lamp: N/A
Luminaire Lumens: 5985.2 lumens
Efficiency: N/A
Efficacy: 104.8 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 57.1
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



— 0°-180° - - 45°-225° - - - 90°-270° - - - 135°-315°



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	36
2	88	80	74	69	80	74	69	64	61	57	54	49	47	44	38	37	35	30
3	80	71	64	58	73	65	59	54	54	49	46	44	41	38	34	32	30	26
4	73	63	55	49	67	58	51	46	48	43	39	39	36	33	31	28	26	22
5	67	56	48	42	61	52	45	39	43	38	34	35	31	28	28	25	23	20
6	62	50	42	37	57	46	39	34	39	34	30	32	28	25	25	23	20	17
7	57	45	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	16
8	53	41	34	29	49	38	31	27	32	27	23	27	23	20	21	19	16	14
9	50	38	30	25	45	35	28	24	30	24	21	24	21	18	20	17	15	13
10	46	35	27	23	42	32	26	21	27	22	19	23	19	16	18	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	6923	6923	6923	6923
5°	6836	6373	6836	6373
10°	6729	5859	6729	5859
15°	6609	5358	6589	5358
20°	6411	4883	6391	4883
25°	6152	4447	6131	4447
30°	5861	4019	5832	4019
35°	5483	3622	5460	3622
40°	5118	3214	5087	3214
45°	4782	2791	4757	2791
50°	4479	2283	4452	2283
55°	4216	1716	4196	1716
60°	3908	1272	3897	1272
65°	3549	943	3549	943
70°	3083	705	3099	705
75°	2713	517	2769	517
80°	3145	334	2693	334
85°	5365	149	3122	149



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.1	1.7
10°-20°	285.1	4.8
20°-30°	418.9	7.0
30°-40°	476.1	8.0
40°-50°	448.1	7.5
50°-60°	359.4	6.0
60°-70°	238.9	4.0
70°-80°	125.6	2.1
80°-90°	79.7	1.3
90°-100°	118.8	2.0
100°-110°	224.9	3.8
110°-120°	383.9	6.4
120°-130°	521.6	8.7
130°-140°	594.8	9.9
140°-150°	593.2	9.9
150°-160°	516.5	8.6
160°-170°	363.4	6.1
170°-180°	135.3	2.3
0°-30°	805.0	13.5
0°-40°	1281.2	21.4
0°-60°	2088.6	34.9
0°-90°	2532.8	42.3
90°-120°	727.6	12.2
90°-150°	2437.1	40.7
90°-180°	3452.0	57.7
0°-180°	5985.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1072	1072	1072	1072	1072	
5°	1064	1069	1064	1069	1064	101
15°	1016	1016	1013	1016	1016	286
25°	905	915	902	915	905	416
35°	746	781	743	781	746	467
45°	578	611	575	611	578	447
55°	430	370	428	370	430	385
65°	284	194	284	194	284	281
75°	151	98	154	98	151	168
85°	159	25	92	25	159	125
90°	210	1	57	1	210	116
95°	277	42	35	42	277	242
105°	446	202	16	202	446	468
115°	620	412	143	412	620	615
125°	776	647	353	647	776	693
135°	902	882	567	882	902	696
145°	990	1104	763	1104	990	624
155°	1106	1276	960	1276	1106	510
165°	1210	1388	1170	1388	1210	343
175°	1430	1446	1399	1446	1430	133
180°	1444	1444	1444	1444	1444	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0
2.5°	1068.0	1068.0	1068.1	1080.1	1076.1	1079.1	1068.1	1068.0	1069.0	1068.0	1068.1
5°	1064.0	1064.0	1061.1	1070.1	1069.1	1070.1	1060.0	1064.0	1064.0	1064.0	1060.0
7.5°	1055.0	1055.0	1054.0	1061.1	1064.1	1060.0	1053.0	1054.0	1055.0	1054.0	1053.0
10°	1045.0	1045.0	1043.0	1049.0	1051.0	1048.0	1042.0	1043.0	1045.0	1043.0	1042.0
12.5°	1032.1	1034.0	1025.0	1031.0	1032.0	1031.0	1025.0	1032.0	1030.0	1032.0	1025.0
15°	1016.1	1010.0	1007.0	1016.0	1016.0	1015.0	1006.0	1008.0	1013.0	1008.0	1006.0
17.5°	991.2	992.0	988.1	993.0	993.0	993.0	987.1	991.1	988.1	991.1	987.1
20°	968.2	967.2	965.1	970.1	969.1	969.1	964.1	965.1	965.1	965.1	964.1
22.5°	938.2	941.2	938.1	942.1	944.1	941.1	937.1	939.1	936.1	939.1	937.1
25°	905.2	906.2	909.1	915.1	915.1	914.1	907.1	903.1	902.1	903.1	907.1
27.5°	869.2	873.2	882.1	890.1	893.1	889.1	880.1	870.1	866.1	870.1	880.1
30°	833.2	833.2	844.2	852.1	850.1	850.1	841.1	830.1	829.1	830.1	841.1
32.5°	791.2	791.2	806.2	820.1	818.1	818.1	803.1	787.1	787.1	787.1	803.1
35°	746.1	749.1	763.1	783.1	781.1	780.1	760.1	746.1	743.1	746.1	760.1
37.5°	703.1	701.1	717.1	740.1	749.1	737.1	714.1	698.1	700.1	698.1	714.1
40°	660.1	656.1	668.1	694.1	701.1	692.1	664.1	652.1	656.1	652.1	664.1
42.5°	619.1	612.1	618.1	645.1	656.1	643.1	615.1	608.1	615.1	608.1	615.1
45°	578.1	570.1	568.1	597.1	611.1	595.1	564.0	567.1	575.1	567.1	564.0
47.5°	542.1	531.1	523.1	541.1	559.1	540.1	519.0	528.1	539.1	528.1	519.0
50°	501.1	492.1	481.1	489.1	498.1	487.1	477.0	488.0	498.1	488.0	477.0
52.5°	467.1	456.1	440.1	441.1	433.1	439.1	437.0	452.0	464.1	452.0	437.0
55°	430.1	420.1	401.1	389.1	370.1	387.0	398.0	417.0	428.1	417.0	398.0
57.5°	394.1	387.1	362.1	338.1	314.1	336.0	359.0	384.0	392.1	384.0	359.0
60°	357.1	350.1	322.1	284.1	269.1	283.0	320.0	348.0	356.1	348.0	320.0
62.5°	321.1	316.1	283.1	240.1	226.0	239.0	281.0	314.0	320.1	314.0	281.0
65°	284.1	276.1	245.1	201.1	194.0	200.0	244.0	275.0	284.1	275.0	244.0
67.5°	246.1	238.1	207.1	169.0	168.0	169.0	206.0	237.0	246.1	237.0	206.0
70°	210.0	198.0	170.0	140.0	140.0	140.0	170.0	199.1	211.1	199.1	170.0
72.5°	178.0	163.0	139.0	116.0	119.0	115.0	139.0	164.1	180.1	164.1	139.0
75°	151.0	132.0	110.0	93.0	98.0	93.0	111.0	133.1	154.1	133.1	111.0
77.5°	136.2	112.1	86.0	73.0	79.0	73.0	87.0	109.1	132.1	109.1	87.0
80°	134.5	107.4	70.1	55.0	60.0	55.0	68.0	91.1	115.2	91.1	68.0
82.5°	143.0	114.8	70.3	39.0	42.0	39.0	58.1	78.1	104.3	78.1	58.1
85°	158.6	133.4	83.8	34.1	25.0	32.0	54.2	71.2	92.3	71.2	54.2
87.5°	181.4	162.2	105.3	42.4	8.0	28.1	47.2	64.3	76.3	64.3	47.2
90°	210.1	192.9	136.1	57.8	1.0	19.0	35.1	49.1	57.1	49.1	35.1
92.5°	245.0	229.8	167.8	82.4	17.3	12.0	28.1	41.1	45.1	41.1	28.1
95°	276.8	269.7	205.7	110.1	41.8	8.1	22.1	33.0	35.1	33.0	22.1
97.5°	314.7	310.6	244.5	143.8	73.4	13.2	19.1	30.1	29.1	30.1	19.1
100°	349.5	347.4	284.4	187.7	112.2	34.7	14.1	27.2	28.2	27.2	14.1
102.5°	401.6	387.4	321.3	229.5	154.0	64.2	17.3	20.2	22.2	20.2	17.3
105°	445.6	429.3	370.2	273.3	201.9	104.0	40.8	19.2	16.1	19.2	40.8
107.5°	484.4	472.2	415.1	318.2	252.9	149.9	75.5	39.7	27.5	39.7	75.5
110°	533.4	521.2	459.0	363.1	306.0	198.9	115.2	72.4	56.1	72.4	115.2



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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°	582.4	573.2	499.8	410.0	361.1	251.9	164.2	113.2	97.9	113.2	164.2
115°	620.1	615.0	547.7	453.9	412.1	312.1	219.3	161.1	142.8	161.1	219.3
117.5°	659.9	658.9	582.4	499.7	473.3	367.2	269.2	209.1	189.7	209.1	269.2
120°	709.9	701.7	630.3	544.6	532.4	424.3	324.3	264.1	244.8	264.1	324.3
122.5°	744.5	739.4	671.1	587.5	587.5	482.4	377.4	317.2	296.8	317.2	377.4
125°	776.2	774.1	701.7	630.3	646.6	536.5	436.5	375.3	352.9	375.3	436.5
127.5°	804.7	807.8	741.5	677.2	706.8	591.5	494.7	427.3	403.9	427.3	494.7
130°	829.2	839.4	779.2	720.1	763.9	651.7	546.7	479.4	464.1	479.4	546.7
132.5°	877.1	871.0	818.0	763.9	825.1	706.8	601.7	531.4	514.0	531.4	601.7
135°	901.6	903.7	851.6	801.7	882.2	761.9	653.8	584.4	567.1	584.4	653.8
137.5°	931.2	925.1	878.2	847.6	935.3	814.9	704.8	640.5	613.0	640.5	704.8
140°	952.6	951.6	912.8	888.4	992.3	866.9	756.8	691.5	666.0	691.5	756.8
142.5°	975.1	982.2	947.5	933.2	1049.4	922.0	812.9	742.5	717.0	742.5	812.9
145°	990.4	1003.5	982.2	989.3	1103.5	983.2	861.8	789.4	762.9	789.4	861.8
147.5°	1015.8	1033.1	1007.6	1029.0	1150.4	1037.2	910.8	839.4	815.9	839.4	910.8
150°	1050.4	1058.6	1043.3	1084.1	1198.3	1097.4	960.8	887.3	863.9	887.3	960.8
152.5°	1078.0	1088.2	1070.8	1144.3	1236.1	1152.4	1015.8	934.3	906.7	934.3	1015.8
155°	1106.5	1110.6	1098.4	1202.4	1275.9	1206.5	1059.6	986.3	959.8	986.3	1059.6
157.5°	1133.1	1141.2	1126.9	1246.3	1310.5	1253.4	1109.6	1038.2	1014.7	1038.2	1109.6
160°	1161.6	1161.6	1169.8	1297.3	1339.1	1294.2	1162.6	1095.3	1062.7	1095.3	1162.6
162.5°	1164.7	1184.1	1227.9	1333.0	1366.6	1329.9	1219.8	1136.1	1107.6	1136.1	1219.8
165°	1209.6	1226.9	1293.2	1364.6	1388.1	1361.5	1290.1	1203.4	1169.8	1203.4	1290.1
167.5°	1256.5	1293.2	1346.2	1400.3	1408.5	1391.1	1344.2	1284.0	1253.4	1284.0	1344.2
170°	1333.0	1364.6	1391.1	1413.6	1424.8	1414.6	1377.9	1348.3	1328.9	1348.3	1377.9
172.5°	1392.2	1413.6	1423.8	1438.0	1431.9	1426.8	1408.5	1394.2	1383.0	1394.2	1408.5
175°	1429.9	1435.0	1444.2	1439.1	1446.2	1434.0	1435.0	1442.1	1399.3	1442.1	1435.0
177.5°	1443.2	1451.3	1446.2	1437.0	1439.0	1436.0	1440.1	1444.2	1437.0	1444.2	1440.1
180°	1444.2	1444.2	1444.2	1444.2	1444.2	1444.2	1444.2	1444.2	1444.2	1444.2	1444.2



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0
2.5°	1079.1	1076.1	1080.1	1068.1	1068.0	1068.0
5°	1070.1	1069.1	1070.1	1061.1	1064.0	1064.0
7.5°	1060.0	1064.1	1061.1	1054.0	1055.0	1055.0
10°	1048.0	1051.0	1049.0	1043.0	1045.0	1045.0
12.5°	1031.0	1032.0	1031.0	1025.0	1034.0	1032.1
15°	1015.0	1016.0	1016.0	1007.0	1010.0	1016.1
17.5°	993.0	993.0	993.0	988.1	992.0	991.2
20°	969.1	969.1	970.1	965.1	967.2	968.2
22.5°	941.1	944.1	942.1	938.1	941.2	938.2
25°	914.1	915.1	915.1	909.1	906.2	905.2
27.5°	889.1	893.1	890.1	882.1	873.2	869.2
30°	850.1	850.1	852.1	844.2	833.2	833.2
32.5°	818.1	818.1	820.1	806.2	791.2	791.2
35°	780.1	781.1	783.1	763.1	749.1	746.1
37.5°	737.1	749.1	740.1	717.1	701.1	703.1
40°	692.1	701.1	694.1	668.1	656.1	660.1
42.5°	643.1	656.1	645.1	618.1	612.1	619.1
45°	595.1	611.1	597.1	568.1	570.1	578.1
47.5°	540.1	559.1	541.1	523.1	531.1	542.1
50°	487.1	498.1	489.1	481.1	492.1	501.1
52.5°	439.1	433.1	441.1	440.1	456.1	467.1
55°	387.0	370.1	389.1	401.1	420.1	430.1
57.5°	336.0	314.1	338.1	362.1	387.1	394.1
60°	283.0	269.1	284.1	322.1	350.1	357.1
62.5°	239.0	226.0	240.1	283.1	316.1	321.1
65°	200.0	194.0	201.1	245.1	276.1	284.1
67.5°	169.0	168.0	169.0	207.1	238.1	246.1
70°	140.0	140.0	140.0	170.0	198.0	210.0
72.5°	115.0	119.0	116.0	139.0	163.0	178.0
75°	93.0	98.0	93.0	110.0	132.0	151.0
77.5°	73.0	79.0	73.0	86.0	112.1	136.2
80°	55.0	60.0	55.0	70.1	107.4	134.5
82.5°	39.0	42.0	39.0	70.3	114.8	143.0
85°	32.0	25.0	34.1	83.8	133.4	158.6
87.5°	28.1	8.0	42.4	105.3	162.2	181.4
90°	19.0	1.0	57.8	136.1	192.9	210.1
92.5°	12.0	17.3	82.4	167.8	229.8	245.0
95°	8.1	41.8	110.1	205.7	269.7	276.8
97.5°	13.2	73.4	143.8	244.5	310.6	314.7
100°	34.7	112.2	187.7	284.4	347.4	349.5
102.5°	64.2	154.0	229.5	321.3	387.4	401.6
105°	104.0	201.9	273.3	370.2	429.3	445.6
107.5°	149.9	252.9	318.2	415.1	472.2	484.4
110°	198.9	306.0	363.1	459.0	521.2	533.4



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	251.9	361.1	410.0	499.8	573.2	582.4
115°	312.1	412.1	453.9	547.7	615.0	620.1
117.5°	367.2	473.3	499.7	582.4	658.9	659.9
120°	424.3	532.4	544.6	630.3	701.7	709.9
122.5°	482.4	587.5	587.5	671.1	739.4	744.5
125°	536.5	646.6	630.3	701.7	774.1	776.2
127.5°	591.5	706.8	677.2	741.5	807.8	804.7
130°	651.7	763.9	720.1	779.2	839.4	829.2
132.5°	706.8	825.1	763.9	818.0	871.0	877.1
135°	761.9	882.2	801.7	851.6	903.7	901.6
137.5°	814.9	935.3	847.6	878.2	925.1	931.2
140°	866.9	992.3	888.4	912.8	951.6	952.6
142.5°	922.0	1049.4	933.2	947.5	982.2	975.1
145°	983.2	1103.5	989.3	982.2	1003.5	990.4
147.5°	1037.2	1150.4	1029.0	1007.6	1033.1	1015.8
150°	1097.4	1198.3	1084.1	1043.3	1058.6	1050.4
152.5°	1152.4	1236.1	1144.3	1070.8	1088.2	1078.0
155°	1206.5	1275.9	1202.4	1098.4	1110.6	1106.5
157.5°	1253.4	1310.5	1246.3	1126.9	1141.2	1133.1
160°	1294.2	1339.1	1297.3	1169.8	1161.6	1161.6
162.5°	1329.9	1366.6	1333.0	1227.9	1184.1	1164.7
165°	1361.5	1388.1	1364.6	1293.2	1226.9	1209.6
167.5°	1391.1	1408.5	1400.3	1346.2	1293.2	1256.5
170°	1414.6	1424.8	1413.6	1391.1	1364.6	1333.0
172.5°	1426.8	1431.9	1438.0	1423.8	1413.6	1392.2
175°	1434.0	1446.2	1439.1	1444.2	1435.0	1429.9
177.5°	1436.0	1439.0	1437.0	1446.2	1451.3	1443.2
180°	1444.2	1444.2	1444.2	1444.2	1444.2	1444.2

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