

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: P392670

Luminaire Tested: **MWL-4-42-25-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392670
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-4-42-25-UNV-L930-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

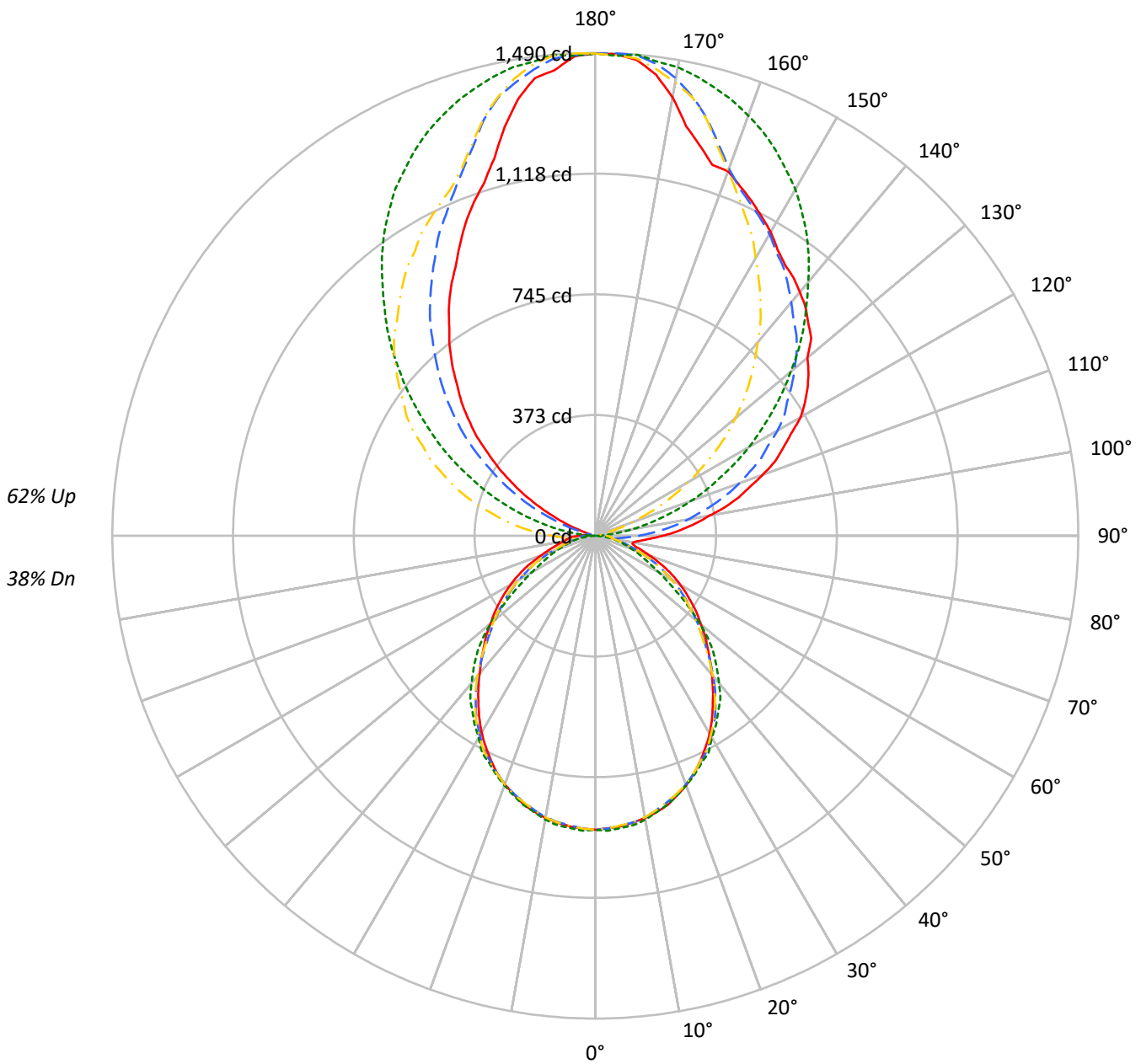
Lumens per Lamp: N/A
Luminaire Lumens: 5701.3 lumens
Efficiency: N/A
Efficacy: 84.8 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Indirect

Input Watts (W): 67.266
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



TEST NUMBER: P392670
CATALOG NUMBER: MWL-4-42-25-UNV-L930-EDD

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	104	104	104	104	95	95	95	95	77	77	77		60	60	60		45	45	45	38
1	95	91	87	83	86	82	79	76	67	65	63		53	51	50		40	39	38	32
2	87	79	73	68	78	72	67	63	59	55	52		47	44	42		35	34	32	27
3	79	70	63	57	72	64	58	53	52	48	44		41	38	36		31	29	28	23
4	72	62	54	49	66	57	50	45	46	42	38		37	33	31		28	26	24	20
5	67	55	47	42	60	51	44	39	42	36	33		33	30	27		25	23	21	17
6	61	50	42	36	55	45	39	34	37	32	28		30	26	23		23	21	19	15
7	57	45	37	32	51	41	34	29	34	29	25		27	24	21		21	19	17	14
8	53	41	33	28	48	37	31	26	31	26	22		25	21	19		19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20		23	19	17		18	15	13	11
10	46	34	27	22	41	31	25	21	26	21	18		21	18	15		17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	5860	5860	5860	5860
5°	5782	5395	5782	5395
10°	5695	4960	5695	4960
15°	5597	4533	5576	4533
20°	5429	4130	5409	4130
25°	5208	3762	5187	3762
30°	4963	3400	4934	3400
35°	4643	3065	4621	3065
40°	4336	2721	4303	2721
45°	4051	2363	4024	2363
50°	3796	1933	3766	1933
55°	3572	1453	3551	1453
60°	3310	1078	3299	1078
65°	3005	799	3005	799
70°	2612	599	2626	599
75°	2300	438	2357	438
80°	2778	284	2310	284
85°	5060	127	2747	127



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.6	1.5
10°-20°	241.3	4.2
20°-30°	354.5	6.2
30°-40°	403.0	7.1
40°-50°	379.4	6.7
50°-60°	304.3	5.3
60°-70°	202.3	3.5
70°-80°	106.7	1.9
80°-90°	72.5	1.3
90°-100°	118.7	2.1
100°-110°	230.9	4.1
110°-120°	395.3	6.9
120°-130°	537.2	9.4
130°-140°	612.6	10.7
140°-150°	611.1	10.7
150°-160°	532.1	9.3
160°-170°	374.4	6.6
170°-180°	139.4	2.4
0°-30°	681.3	11.9
0°-40°	1084.3	19.0
0°-60°	1768.0	31.0
0°-90°	2149.6	37.7
90°-120°	744.9	13.1
90°-150°	2505.8	44.0
90°-180°	3552.0	62.3
0°-180°	5701.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	907	907	907	907	907	
5°	900	905	900	905	900	85
15°	860	860	857	860	860	242
25°	766	774	763	774	766	352
35°	632	661	629	661	632	396
45°	490	517	486	517	490	379
55°	364	313	362	313	364	326
65°	241	164	241	164	241	238
75°	128	83	131	83	128	144
85°	150	21	81	21	150	116
90°	207	1	50	1	207	114
95°	279	43	30	43	279	245
105°	457	208	15	208	457	481
115°	639	424	147	424	639	634
125°	800	666	363	666	800	714
135°	929	909	584	909	929	717
145°	1020	1137	786	1137	1020	643
155°	1140	1314	989	1314	1140	526
165°	1246	1430	1205	1430	1246	354
175°	1473	1490	1442	1490	1473	137
180°	1488	1488	1488	1488	1488	



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CATALOG NUMBER: MWL-4-42-25-UNV-L930-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	907.4	907.4	907.4	907.4	907.4	907.4	907.4	907.4	907.4	907.4	907.4
2.5°	903.4	903.8	904.2	914.6	911.1	913.4	904.2	903.8	904.4	903.8	904.2
5°	900.0	900.5	898.3	905.9	905.0	905.9	897.2	900.5	900.0	900.5	897.2
7.5°	892.6	893.0	892.1	898.3	900.8	897.2	891.2	892.0	892.6	892.0	891.2
10°	884.4	884.6	882.9	887.9	889.7	886.9	881.8	882.4	884.4	882.4	881.8
12.5°	873.7	875.3	867.5	872.6	873.2	872.6	867.5	873.2	871.7	873.2	867.5
15°	860.5	855.0	852.2	859.9	859.6	858.8	851.2	852.9	857.3	852.9	851.2
17.5°	839.4	839.7	836.2	840.2	840.2	840.2	835.2	838.8	836.2	838.8	835.2
20°	819.9	818.8	816.8	820.7	819.7	819.7	815.7	816.8	816.8	816.8	815.7
22.5°	794.3	796.9	793.9	797.1	798.6	796.1	792.9	794.8	792.3	794.8	792.9
25°	766.4	767.3	769.6	774.3	774.1	773.3	767.5	764.1	763.3	764.1	767.5
27.5°	736.0	739.4	746.8	753.4	755.6	752.3	744.7	736.3	732.8	736.3	744.7
30°	705.5	705.5	714.9	721.5	719.2	719.4	711.7	702.5	701.4	702.5	711.7
32.5°	670.1	670.1	682.7	694.5	692.3	692.3	679.7	665.9	665.9	665.9	679.7
35°	631.8	634.4	646.2	663.1	660.9	660.0	643.1	631.3	628.8	631.3	643.1
37.5°	595.6	593.8	607.4	626.8	634.0	623.7	604.2	590.7	592.4	590.7	604.2
40°	559.2	555.9	566.0	587.7	593.5	585.6	561.8	551.6	555.0	551.6	561.8
42.5°	524.5	518.6	523.5	546.4	555.4	544.2	520.3	514.4	520.3	514.4	520.3
45°	489.7	483.0	481.3	505.8	517.4	503.6	477.1	479.8	486.5	479.8	477.1
47.5°	459.3	450.0	443.2	458.2	473.4	457.2	439.0	446.8	456.1	446.8	439.0
50°	424.7	417.1	407.8	414.3	421.7	412.2	403.5	412.9	421.4	412.9	403.5
52.5°	396.0	386.6	372.9	373.7	366.7	371.6	369.7	382.4	392.7	382.4	369.7
55°	364.4	356.0	339.9	329.6	313.3	327.5	336.8	352.8	362.3	352.8	336.8
57.5°	334.0	328.1	306.9	286.5	265.9	284.4	303.8	324.9	331.9	324.9	303.8
60°	302.5	296.6	273.0	240.6	228.0	239.6	270.8	294.5	301.5	294.5	270.8
62.5°	272.2	267.9	240.0	203.4	191.4	202.4	237.9	265.8	271.0	265.8	237.9
65°	240.6	233.9	207.6	170.5	164.4	169.4	206.7	232.8	240.6	232.8	206.7
67.5°	208.5	201.7	175.5	143.3	142.4	143.3	174.5	200.7	208.5	200.7	174.5
70°	177.9	167.7	144.0	118.8	118.8	118.8	144.0	168.8	178.9	168.8	144.0
72.5°	150.8	138.2	117.9	98.4	100.7	97.4	117.9	139.2	152.9	139.2	117.9
75°	128.0	112.0	93.2	78.8	83.0	78.8	94.2	113.0	131.2	113.0	94.2
77.5°	116.9	95.9	72.8	61.9	66.9	61.9	74.0	92.7	112.8	92.7	74.0
80°	118.8	94.6	60.0	46.7	50.9	46.7	57.8	77.7	98.8	77.7	57.8
82.5°	130.5	105.0	62.4	33.1	35.7	33.1	49.8	67.2	90.6	67.2	49.8
85°	149.6	126.4	78.0	29.6	21.3	27.5	47.5	62.3	81.2	62.3	47.5
87.5°	175.6	157.7	101.7	39.4	6.8	24.7	41.7	56.8	67.4	56.8	41.7
90°	207.3	190.8	134.5	56.4	1.1	16.5	30.5	42.7	49.6	42.7	30.5
92.5°	245.0	230.0	168.3	83.0	17.7	10.6	24.2	35.5	39.0	35.5	24.2
95°	279.3	272.2	208.4	112.6	42.9	7.6	19.2	28.4	30.2	28.4	19.2
97.5°	319.6	315.2	249.5	148.0	75.5	13.5	17.3	26.2	25.4	26.2	17.3
100°	356.3	354.5	291.8	193.2	115.4	35.5	13.3	24.4	25.3	24.4	13.3
102.5°	411.2	396.9	330.7	236.3	158.6	66.0	17.5	18.5	20.2	18.5	17.5
105°	457.4	441.0	381.3	281.5	207.9	107.0	41.8	18.5	15.0	18.5	41.8
107.5°	498.5	486.3	427.7	327.7	260.5	154.4	77.6	40.6	27.6	40.6	77.6
110°	549.3	536.8	472.7	373.9	315.1	204.8	118.6	74.2	57.4	74.2	118.6



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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°	599.8	590.3	514.8	422.3	371.8	259.5	169.1	116.3	100.5	116.3	169.1
115°	638.6	633.4	564.0	467.5	424.4	321.4	225.6	165.6	146.7	165.6	225.6
117.5°	679.7	678.6	599.8	514.6	487.4	378.0	277.1	215.1	195.0	215.1	277.1
120°	731.2	722.7	649.1	560.9	548.2	436.8	333.8	271.8	251.8	271.8	333.8
122.5°	766.8	761.6	691.2	605.0	605.0	496.8	388.5	326.5	305.4	326.5	388.5
125°	799.5	797.4	722.7	649.1	665.9	552.4	449.4	386.4	363.2	386.4	449.4
127.5°	828.9	832.0	763.7	697.5	728.0	609.2	509.4	440.0	415.8	440.0	509.4
130°	854.2	864.7	802.6	741.6	786.9	671.3	563.0	493.6	477.8	493.6	563.0
132.5°	903.5	897.2	842.6	786.9	849.9	728.0	619.7	547.2	529.4	547.2	619.7
135°	928.8	930.9	877.2	825.7	908.8	784.8	673.3	601.9	583.9	601.9	673.3
137.5°	959.2	953.0	904.6	873.1	963.4	839.5	725.9	659.7	631.3	659.7	725.9
140°	981.3	980.3	940.4	915.1	1022.3	893.0	779.5	712.2	686.0	712.2	779.5
142.5°	1004.4	1011.6	976.0	961.3	1081.2	949.7	837.4	764.5	738.6	764.5	837.4
145°	1020.2	1033.8	1011.8	1019.1	1136.8	1012.8	887.8	813.1	785.8	813.1	887.8
147.5°	1046.5	1064.3	1038.0	1060.1	1185.2	1068.6	938.3	864.7	840.4	864.7	938.3
150°	1082.2	1090.6	1074.9	1116.9	1234.6	1130.6	989.7	914.0	889.9	914.0	989.7
152.5°	1110.6	1121.1	1103.2	1178.9	1273.5	1187.3	1046.5	962.4	934.0	962.4	1046.5
155°	1140.1	1144.2	1131.6	1238.9	1314.5	1243.0	1091.7	1016.0	988.7	1016.0	1091.7
157.5°	1167.4	1175.8	1161.0	1284.0	1350.2	1291.4	1143.2	1069.5	1045.4	1069.5	1143.2
160°	1196.8	1196.8	1205.2	1336.5	1379.7	1333.4	1197.8	1128.4	1094.8	1128.4	1197.8
162.5°	1199.9	1219.9	1265.1	1373.4	1408.0	1370.1	1256.6	1170.4	1141.0	1170.4	1256.6
165°	1246.2	1264.0	1332.4	1405.9	1430.1	1402.8	1329.2	1239.8	1205.2	1239.8	1329.2
167.5°	1294.5	1332.4	1387.0	1442.7	1451.2	1433.3	1384.9	1323.0	1291.4	1323.0	1384.9
170°	1373.4	1405.9	1433.3	1456.3	1468.0	1457.4	1419.6	1389.1	1369.2	1389.1	1419.6
172.5°	1434.5	1456.3	1466.9	1481.6	1475.1	1470.1	1451.2	1436.4	1425.1	1436.4	1451.2
175°	1473.4	1478.4	1487.9	1482.7	1489.8	1477.4	1478.4	1485.8	1441.9	1485.8	1478.4
177.5°	1487.0	1495.3	1490.0	1480.6	1482.5	1479.5	1483.7	1487.9	1480.7	1487.9	1483.7
180°	1487.9	1487.9	1487.9	1487.9	1487.9	1487.9	1487.9	1487.9	1487.9	1487.9	1487.9



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CATALOG NUMBER: MWL-4-42-25-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	907.4	907.4	907.4	907.4	907.4	907.4
2.5°	913.4	911.1	914.6	904.2	903.8	903.4
5°	905.9	905.0	905.9	898.3	900.5	900.0
7.5°	897.2	900.8	898.3	892.1	893.0	892.6
10°	886.9	889.7	887.9	882.9	884.6	884.4
12.5°	872.6	873.2	872.6	867.5	875.3	873.7
15°	858.8	859.6	859.9	852.2	855.0	860.5
17.5°	840.2	840.2	840.2	836.2	839.7	839.4
20°	819.7	819.7	820.7	816.8	818.8	819.9
22.5°	796.1	798.6	797.1	793.9	796.9	794.3
25°	773.3	774.1	774.3	769.6	767.3	766.4
27.5°	752.3	755.6	753.4	746.8	739.4	736.0
30°	719.4	719.2	721.5	714.9	705.5	705.5
32.5°	692.3	692.3	694.5	682.7	670.1	670.1
35°	660.0	660.9	663.1	646.2	634.4	631.8
37.5°	623.7	634.0	626.8	607.4	593.8	595.6
40°	585.6	593.5	587.7	566.0	555.9	559.2
42.5°	544.2	555.4	546.4	523.5	518.6	524.5
45°	503.6	517.4	505.8	481.3	483.0	489.7
47.5°	457.2	473.4	458.2	443.2	450.0	459.3
50°	412.2	421.7	414.3	407.8	417.1	424.7
52.5°	371.6	366.7	373.7	372.9	386.6	396.0
55°	327.5	313.3	329.6	339.9	356.0	364.4
57.5°	284.4	265.9	286.5	306.9	328.1	334.0
60°	239.6	228.0	240.6	273.0	296.6	302.5
62.5°	202.4	191.4	203.4	240.0	267.9	272.2
65°	169.4	164.4	170.5	207.6	233.9	240.6
67.5°	143.3	142.4	143.3	175.5	201.7	208.5
70°	118.8	118.8	118.8	144.0	167.7	177.9
72.5°	97.4	100.7	98.4	117.9	138.2	150.8
75°	78.8	83.0	78.8	93.2	112.0	128.0
77.5°	61.9	66.9	61.9	72.8	95.9	116.9
80°	46.7	50.9	46.7	60.0	94.6	118.8
82.5°	33.1	35.7	33.1	62.4	105.0	130.5
85°	27.5	21.3	29.6	78.0	126.4	149.6
87.5°	24.7	6.8	39.4	101.7	157.7	175.6
90°	16.5	1.1	56.4	134.5	190.8	207.3
92.5°	10.6	17.7	83.0	168.3	230.0	245.0
95°	7.6	42.9	112.6	208.4	272.2	279.3
97.5°	13.5	75.5	148.0	249.5	315.2	319.6
100°	35.5	115.4	193.2	291.8	354.5	356.3
102.5°	66.0	158.6	236.3	330.7	396.9	411.2
105°	107.0	207.9	281.5	381.3	441.0	457.4
107.5°	154.4	260.5	327.7	427.7	486.3	498.5
110°	204.8	315.1	373.9	472.7	536.8	549.3



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	259.5	371.8	422.3	514.8	590.3	599.8
115°	321.4	424.4	467.5	564.0	633.4	638.6
117.5°	378.0	487.4	514.6	599.8	678.6	679.7
120°	436.8	548.2	560.9	649.1	722.7	731.2
122.5°	496.8	605.0	605.0	691.2	761.6	766.8
125°	552.4	665.9	649.1	722.7	797.4	799.5
127.5°	609.2	728.0	697.5	763.7	832.0	828.9
130°	671.3	786.9	741.6	802.6	864.7	854.2
132.5°	728.0	849.9	786.9	842.6	897.2	903.5
135°	784.8	908.8	825.7	877.2	930.9	928.8
137.5°	839.5	963.4	873.1	904.6	953.0	959.2
140°	893.0	1022.3	915.1	940.4	980.3	981.3
142.5°	949.7	1081.2	961.3	976.0	1011.6	1004.4
145°	1012.8	1136.8	1019.1	1011.8	1033.8	1020.2
147.5°	1068.6	1185.2	1060.1	1038.0	1064.3	1046.5
150°	1130.6	1234.6	1116.9	1074.9	1090.6	1082.2
152.5°	1187.3	1273.5	1178.9	1103.2	1121.1	1110.6
155°	1243.0	1314.5	1238.9	1131.6	1144.2	1140.1
157.5°	1291.4	1350.2	1284.0	1161.0	1175.8	1167.4
160°	1333.4	1379.7	1336.5	1205.2	1196.8	1196.8
162.5°	1370.1	1408.0	1373.4	1265.1	1219.9	1199.9
165°	1402.8	1430.1	1405.9	1332.4	1264.0	1246.2
167.5°	1433.3	1451.2	1442.7	1387.0	1332.4	1294.5
170°	1457.4	1468.0	1456.3	1433.3	1405.9	1373.4
172.5°	1470.1	1475.1	1481.6	1466.9	1456.3	1434.5
175°	1477.4	1489.8	1482.7	1487.9	1478.4	1473.4
177.5°	1479.5	1482.5	1480.6	1490.0	1495.3	1487.0
180°	1487.9	1487.9	1487.9	1487.9	1487.9	1487.9

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