

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-L830-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-L830-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

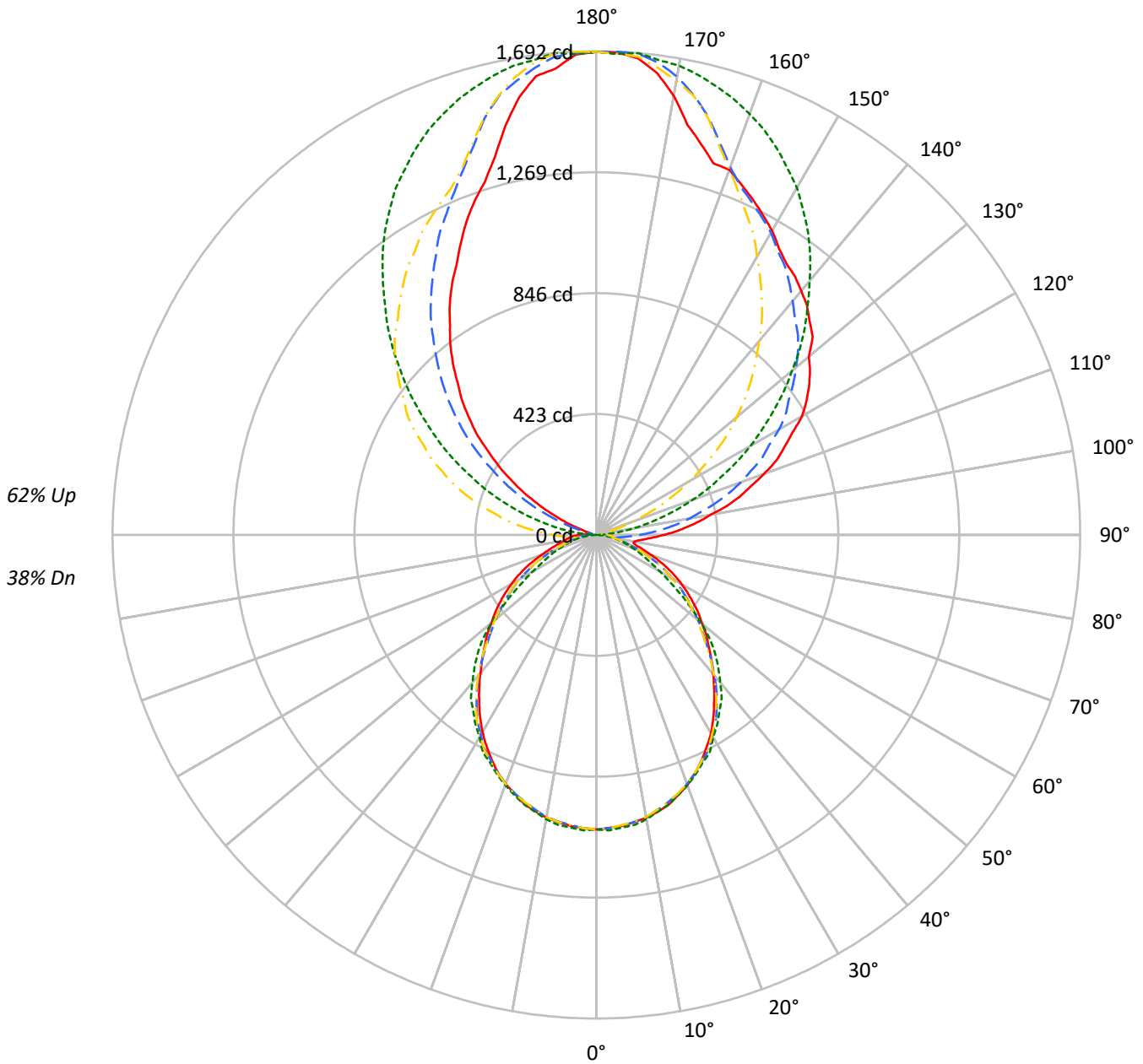
Lumens per Lamp: N/A
Luminaire Lumens: 6475.1 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Indirect

Input Watts (W): 66.6
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	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°	6655	6655	6655	6655
5°	6567	6127	6567	6127
10°	6468	5633	6468	5633
15°	6357	5148	6334	5148
20°	6166	4691	6142	4691
25°	5915	4273	5891	4273
30°	5637	3862	5604	3862
35°	5273	3481	5247	3481
40°	4924	3090	4887	3090
45°	4601	2683	4570	2683
50°	4311	2195	4278	2195
55°	4057	1650	4033	1650
60°	3760	1224	3747	1224
65°	3414	907	3414	907
70°	2966	680	2983	680
75°	2613	497	2677	497
80°	3154	322	2623	322
85°	5747	144	3119	144



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.2	1.5
10°-20°	274.0	4.2
20°-30°	402.6	6.2
30°-40°	457.7	7.1
40°-50°	430.8	6.7
50°-60°	345.6	5.3
60°-70°	229.8	3.5
70°-80°	121.2	1.9
80°-90°	82.4	1.3
90°-100°	134.8	2.1
100°-110°	262.3	4.1
110°-120°	448.9	6.9
120°-130°	610.1	9.4
130°-140°	695.8	10.7
140°-150°	694.0	10.7
150°-160°	604.4	9.3
160°-170°	425.2	6.6
170°-180°	158.4	2.4
0°-30°	773.8	11.9
0°-40°	1231.5	19.0
0°-60°	2007.9	31.0
0°-90°	2441.3	37.7
90°-120°	846.0	13.1
90°-150°	2845.9	44.0
90°-180°	4034.0	62.3
0°-180°	6475.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1030	1030	1030	1030	1030	
5°	1022	1028	1022	1028	1022	97
15°	977	976	974	976	977	275
25°	870	879	867	879	870	400
35°	718	751	714	751	718	449
45°	556	588	552	588	556	431
55°	414	356	412	356	414	370
65°	273	187	273	187	273	270
75°	145	94	149	94	145	163
85°	170	24	92	24	170	132
90°	235	1	56	1	235	130
95°	317	49	34	49	317	278
105°	520	236	17	236	520	546
115°	725	482	167	482	725	720
125°	908	756	412	756	908	811
135°	1055	1032	663	1032	1055	814
145°	1159	1291	892	1291	1159	730
155°	1295	1493	1123	1493	1295	597
165°	1415	1624	1369	1624	1415	402
175°	1673	1692	1638	1692	1673	156
180°	1690	1690	1690	1690	1690	



TEST NUMBER: P392670

CATALOG NUMBER: MWL-4-42-25-UNV-L830-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1030.5	1030.5	1030.5	1030.5	1030.5	1030.5	1030.5	1030.5	1030.5	1030.5	1030.5
2.5°	1026.0	1026.5	1026.9	1038.7	1034.8	1037.4	1026.9	1026.5	1027.2	1026.5	1026.9
5°	1022.2	1022.7	1020.2	1028.8	1027.8	1028.8	1019.0	1022.7	1022.2	1022.7	1019.0
7.5°	1013.7	1014.2	1013.2	1020.2	1023.0	1019.0	1012.1	1013.1	1013.7	1013.1	1012.1
10°	1004.4	1004.6	1002.7	1008.4	1010.4	1007.3	1001.5	1002.2	1004.4	1002.2	1001.5
12.5°	992.3	994.1	985.2	991.0	991.7	991.0	985.2	991.7	990.0	991.7	985.2
15°	977.3	971.0	967.9	976.6	976.3	975.3	966.7	968.6	973.7	968.6	966.7
17.5°	953.3	953.7	949.7	954.2	954.2	954.2	948.5	952.6	949.7	952.6	948.5
20°	931.2	929.9	927.6	932.1	931.0	931.0	926.4	927.6	927.6	927.6	926.4
22.5°	902.1	905.0	901.7	905.3	907.0	904.1	900.5	902.7	899.8	902.7	900.5
25°	870.4	871.4	874.1	879.4	879.2	878.2	871.7	867.8	866.9	867.8	871.7
27.5°	835.9	839.7	848.2	855.7	858.1	854.4	845.8	836.2	832.3	836.2	845.8
30°	801.3	801.3	811.9	819.4	816.8	817.0	808.3	797.8	796.6	797.8	808.3
32.5°	761.0	761.0	775.4	788.7	786.3	786.3	771.9	756.3	756.3	756.3	771.9
35°	717.6	720.5	733.9	753.1	750.6	749.6	730.4	717.0	714.1	717.0	730.4
37.5°	676.4	674.4	689.8	711.9	720.0	708.3	686.2	670.9	672.8	670.9	686.2
40°	635.1	631.3	642.8	667.5	674.0	665.1	638.0	626.5	630.3	626.5	638.0
42.5°	595.7	589.0	594.6	620.5	630.8	618.1	590.9	584.2	590.9	584.2	590.9
45°	556.2	548.5	546.6	574.4	587.6	572.0	541.8	544.9	552.5	544.9	541.8
47.5°	521.6	511.1	503.4	520.4	537.7	519.2	498.6	507.4	518.0	507.4	498.6
50°	482.3	473.7	463.1	470.5	478.9	468.1	458.3	468.9	478.6	468.9	458.3
52.5°	449.7	439.1	423.5	424.4	416.5	422.0	419.9	434.3	446.0	434.3	419.9
55°	413.9	404.3	386.0	374.3	355.8	371.9	382.5	400.7	411.5	400.7	382.5
57.5°	379.3	372.6	348.6	325.4	302.0	323.0	345.0	369.0	376.9	369.0	345.0
60°	343.6	336.9	310.0	273.3	258.9	272.1	307.6	334.5	342.4	334.5	307.6
62.5°	309.1	304.3	272.6	231.0	217.4	229.9	270.2	301.9	307.8	301.9	270.2
65°	273.3	265.6	235.8	193.6	186.7	192.4	234.7	264.4	273.3	264.4	234.7
67.5°	236.8	229.1	199.3	162.7	161.7	162.7	198.2	227.9	236.8	227.9	198.2
70°	202.0	190.5	163.6	134.9	134.9	134.9	163.6	191.7	203.2	191.7	163.6
72.5°	171.3	156.9	133.9	111.8	114.4	110.6	133.9	158.1	173.7	158.1	133.9
75°	145.4	127.2	105.8	89.5	94.3	89.5	107.0	128.3	149.0	128.3	107.0
77.5°	132.8	108.9	82.7	70.3	76.0	70.3	84.0	105.3	128.1	105.3	84.0
80°	134.9	107.4	68.1	53.0	57.8	53.0	65.7	88.3	112.2	88.3	65.7
82.5°	148.2	119.2	70.9	37.6	40.5	37.6	56.6	76.3	102.9	76.3	56.6
85°	169.9	143.5	88.6	33.6	24.2	31.2	53.9	70.7	92.2	70.7	53.9
87.5°	199.4	179.1	115.5	44.7	7.7	28.0	47.4	64.5	76.5	64.5	47.4
90°	235.4	216.7	152.7	64.0	1.2	18.7	34.6	48.5	56.3	48.5	34.6
92.5°	278.3	261.2	191.1	94.3	20.1	12.0	27.5	40.3	44.3	40.3	27.5
95°	317.2	309.1	236.7	127.9	48.7	8.6	21.8	32.2	34.3	32.2	21.8
97.5°	363.0	358.0	283.4	168.1	85.7	15.3	19.7	29.8	28.8	29.8	19.7
100°	404.7	402.6	331.4	219.4	131.1	40.3	15.1	27.7	28.7	27.7	15.1
102.5°	467.0	450.8	375.6	268.4	180.1	75.0	19.9	21.0	22.9	21.0	19.9
105°	519.5	500.9	433.1	319.7	236.1	121.5	47.5	21.0	17.0	21.0	47.5
107.5°	566.1	552.3	485.7	372.2	295.8	175.3	88.1	46.1	31.3	46.1	88.1
110°	623.9	609.6	536.9	424.7	357.9	232.6	134.7	84.3	65.2	84.3	134.7



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CATALOG NUMBER: MWL-4-42-25-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	681.2	670.4	584.7	479.6	422.3	294.7	192.0	132.1	114.1	132.1	192.0
115°	725.3	719.4	640.6	531.0	482.0	365.0	256.2	188.1	166.6	188.1	256.2
117.5°	771.9	770.7	681.2	584.4	553.6	429.3	314.7	244.3	221.5	244.3	314.7
120°	830.4	820.8	737.2	637.0	622.6	496.1	379.1	308.7	286.0	308.7	379.1
122.5°	870.9	865.0	785.0	687.1	687.1	564.2	441.2	370.8	346.9	370.8	441.2
125°	908.0	905.6	820.8	737.2	756.3	627.4	510.4	438.8	412.5	438.8	510.4
127.5°	941.4	944.9	867.4	792.2	826.8	691.9	578.5	499.7	472.2	499.7	578.5
130°	970.1	982.0	911.5	842.3	893.7	762.4	639.4	560.6	542.7	560.6	639.4
132.5°	1026.1	1019.0	956.9	893.7	965.3	826.8	703.8	621.5	601.2	621.5	703.8
135°	1054.8	1057.2	996.3	937.8	1032.1	891.3	764.7	683.6	663.2	683.6	764.7
137.5°	1089.4	1082.3	1027.4	991.6	1094.2	953.4	824.4	749.2	717.0	749.2	824.4
140°	1114.5	1113.3	1068.0	1039.3	1161.1	1014.2	885.3	808.9	779.1	808.9	885.3
142.5°	1140.7	1148.9	1108.5	1091.8	1227.9	1078.6	951.0	868.3	838.8	868.3	951.0
145°	1158.7	1174.1	1149.1	1157.4	1291.1	1150.3	1008.3	923.5	892.4	923.5	1008.3
147.5°	1188.5	1208.8	1178.9	1204.0	1346.0	1213.6	1065.6	982.0	954.5	982.0	1065.6
150°	1229.1	1238.6	1220.8	1268.5	1402.2	1284.0	1124.0	1038.1	1010.7	1038.1	1124.0
152.5°	1261.3	1273.3	1252.9	1338.9	1446.3	1348.4	1188.5	1093.0	1060.8	1093.0	1188.5
155°	1294.8	1299.5	1285.2	1407.0	1492.9	1411.7	1239.9	1153.9	1122.9	1153.9	1239.9
157.5°	1325.8	1335.4	1318.6	1458.3	1533.5	1466.7	1298.3	1214.7	1187.3	1214.7	1298.3
160°	1359.2	1359.2	1368.8	1517.9	1566.9	1514.4	1360.4	1281.6	1243.4	1281.6	1360.4
162.5°	1362.8	1385.5	1436.8	1559.8	1599.1	1556.1	1427.2	1329.3	1295.9	1329.3	1427.2
165°	1415.3	1435.6	1513.2	1596.7	1624.2	1593.2	1509.6	1408.1	1368.8	1408.1	1509.6
167.5°	1470.2	1513.2	1575.2	1638.5	1648.1	1627.8	1572.9	1502.5	1466.7	1502.5	1572.9
170°	1559.8	1596.7	1627.8	1654.0	1667.2	1655.2	1612.3	1577.6	1555.0	1577.6	1612.3
172.5°	1629.2	1654.0	1666.0	1682.7	1675.3	1669.6	1648.1	1631.4	1618.5	1631.4	1648.1
175°	1673.4	1679.1	1689.8	1683.9	1692.0	1677.9	1679.1	1687.5	1637.6	1687.5	1679.1
177.5°	1688.8	1698.2	1692.2	1681.5	1683.7	1680.3	1685.1	1689.8	1681.7	1689.8	1685.1
180°	1689.8	1689.8	1689.8	1689.8	1689.8	1689.8	1689.8	1689.8	1689.8	1689.8	1689.8



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CATALOG NUMBER: MWL-4-42-25-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1030.5	1030.5	1030.5	1030.5	1030.5	1030.5
2.5°	1037.4	1034.8	1038.7	1026.9	1026.5	1026.0
5°	1028.8	1027.8	1028.8	1020.2	1022.7	1022.2
7.5°	1019.0	1023.0	1020.2	1013.2	1014.2	1013.7
10°	1007.3	1010.4	1008.4	1002.7	1004.6	1004.4
12.5°	991.0	991.7	991.0	985.2	994.1	992.3
15°	975.3	976.3	976.6	967.9	971.0	977.3
17.5°	954.2	954.2	954.2	949.7	953.7	953.3
20°	931.0	931.0	932.1	927.6	929.9	931.2
22.5°	904.1	907.0	905.3	901.7	905.0	902.1
25°	878.2	879.2	879.4	874.1	871.4	870.4
27.5°	854.4	858.1	855.7	848.2	839.7	835.9
30°	817.0	816.8	819.4	811.9	801.3	801.3
32.5°	786.3	786.3	788.7	775.4	761.0	761.0
35°	749.6	750.6	753.1	733.9	720.5	717.6
37.5°	708.3	720.0	711.9	689.8	674.4	676.4
40°	665.1	674.0	667.5	642.8	631.3	635.1
42.5°	618.1	630.8	620.5	594.6	589.0	595.7
45°	572.0	587.6	574.4	546.6	548.5	556.2
47.5°	519.2	537.7	520.4	503.4	511.1	521.6
50°	468.1	478.9	470.5	463.1	473.7	482.3
52.5°	422.0	416.5	424.4	423.5	439.1	449.7
55°	371.9	355.8	374.3	386.0	404.3	413.9
57.5°	323.0	302.0	325.4	348.6	372.6	379.3
60°	272.1	258.9	273.3	310.0	336.9	343.6
62.5°	229.9	217.4	231.0	272.6	304.3	309.1
65°	192.4	186.7	193.6	235.8	265.6	273.3
67.5°	162.7	161.7	162.7	199.3	229.1	236.8
70°	134.9	134.9	134.9	163.6	190.5	202.0
72.5°	110.6	114.4	111.8	133.9	156.9	171.3
75°	89.5	94.3	89.5	105.8	127.2	145.4
77.5°	70.3	76.0	70.3	82.7	108.9	132.8
80°	53.0	57.8	53.0	68.1	107.4	134.9
82.5°	37.6	40.5	37.6	70.9	119.2	148.2
85°	31.2	24.2	33.6	88.6	143.5	169.9
87.5°	28.0	7.7	44.7	115.5	179.1	199.4
90°	18.7	1.2	64.0	152.7	216.7	235.4
92.5°	12.0	20.1	94.3	191.1	261.2	278.3
95°	8.6	48.7	127.9	236.7	309.1	317.2
97.5°	15.3	85.7	168.1	283.4	358.0	363.0
100°	40.3	131.1	219.4	331.4	402.6	404.7
102.5°	75.0	180.1	268.4	375.6	450.8	467.0
105°	121.5	236.1	319.7	433.1	500.9	519.5
107.5°	175.3	295.8	372.2	485.7	552.3	566.1
110°	232.6	357.9	424.7	536.9	609.6	623.9



TEST NUMBER: P392670

CATALOG NUMBER: MWL-4-42-25-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	294.7	422.3	479.6	584.7	670.4	681.2
115°	365.0	482.0	531.0	640.6	719.4	725.3
117.5°	429.3	553.6	584.4	681.2	770.7	771.9
120°	496.1	622.6	637.0	737.2	820.8	830.4
122.5°	564.2	687.1	687.1	785.0	865.0	870.9
125°	627.4	756.3	737.2	820.8	905.6	908.0
127.5°	691.9	826.8	792.2	867.4	944.9	941.4
130°	762.4	893.7	842.3	911.5	982.0	970.1
132.5°	826.8	965.3	893.7	956.9	1019.0	1026.1
135°	891.3	1032.1	937.8	996.3	1057.2	1054.8
137.5°	953.4	1094.2	991.6	1027.4	1082.3	1089.4
140°	1014.2	1161.1	1039.3	1068.0	1113.3	1114.5
142.5°	1078.6	1227.9	1091.8	1108.5	1148.9	1140.7
145°	1150.3	1291.1	1157.4	1149.1	1174.1	1158.7
147.5°	1213.6	1346.0	1204.0	1178.9	1208.8	1188.5
150°	1284.0	1402.2	1268.5	1220.8	1238.6	1229.1
152.5°	1348.4	1446.3	1338.9	1252.9	1273.3	1261.3
155°	1411.7	1492.9	1407.0	1285.2	1299.5	1294.8
157.5°	1466.7	1533.5	1458.3	1318.6	1335.4	1325.8
160°	1514.4	1566.9	1517.9	1368.8	1359.2	1359.2
162.5°	1556.1	1599.1	1559.8	1436.8	1385.5	1362.8
165°	1593.2	1624.2	1596.7	1513.2	1435.6	1415.3
167.5°	1627.8	1648.1	1638.5	1575.2	1513.2	1470.2
170°	1655.2	1667.2	1654.0	1627.8	1596.7	1559.8
172.5°	1669.6	1675.3	1682.7	1666.0	1654.0	1629.2
175°	1677.9	1692.0	1683.9	1689.8	1679.1	1673.4
177.5°	1680.3	1683.7	1681.5	1692.2	1698.2	1688.8
180°	1689.8	1689.8	1689.8	1689.8	1689.8	1689.8

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