

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: P392671

Luminaire Tested: **MWL-4-42-25-UNV-L935-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392671  
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-L935-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

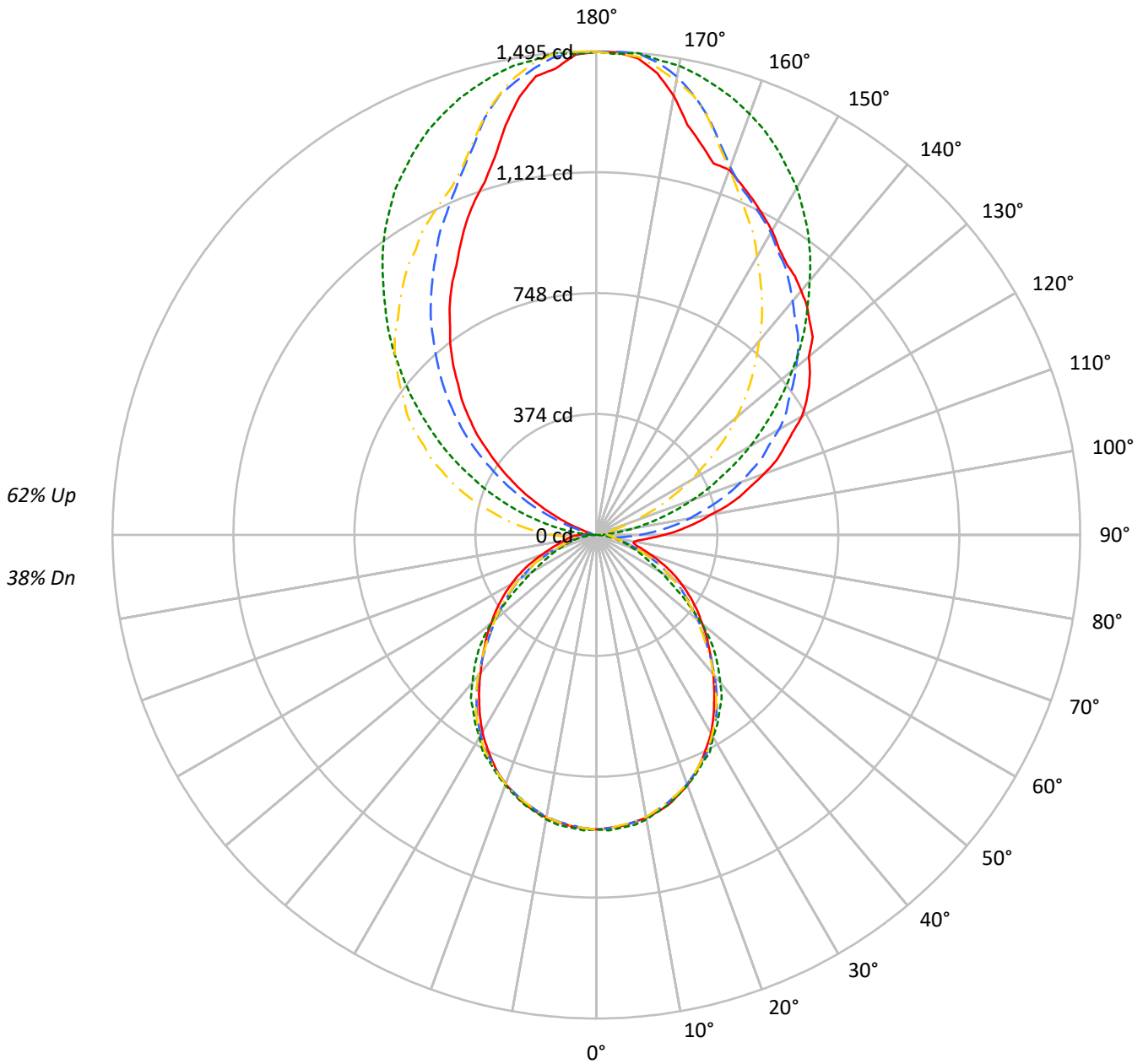
Lumens per Lamp: N/A  
Luminaire Lumens: 5721.0 lumens  
Efficiency: N/A  
Efficacy: 85.1 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')  
CIE Type: Semi-Indirect

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



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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°	5880	5880	5880	5880
5°	5802	5414	5802	5414
10°	5715	4977	5715	4977
15°	5616	4549	5596	4549
20°	5448	4145	5427	4145
25°	5227	3775	5205	3775
30°	4980	3412	4952	3412
35°	4660	3075	4637	3075
40°	4350	2730	4318	2730
45°	4065	2371	4038	2371
50°	3808	1940	3780	1940
55°	3584	1458	3563	1458
60°	3322	1082	3310	1082
65°	3015	801	3015	801
70°	2621	601	2637	601
75°	2309	439	2365	439
80°	2789	285	2317	285
85°	5077	128	2757	128



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.9	1.5
10°-20°	242.1	4.2
20°-30°	355.7	6.2
30°-40°	404.4	7.1
40°-50°	380.7	6.7
50°-60°	305.4	5.3
60°-70°	203.0	3.5
70°-80°	107.1	1.9
80°-90°	72.8	1.3
90°-100°	119.1	2.1
100°-110°	231.7	4.1
110°-120°	396.7	6.9
120°-130°	539.0	9.4
130°-140°	614.7	10.7
140°-150°	613.2	10.7
150°-160°	534.0	9.3
160°-170°	375.7	6.6
170°-180°	139.9	2.4
0°-30°	683.7	12.0
0°-40°	1088.1	19.0
0°-60°	1774.1	31.0
0°-90°	2157.0	37.7
90°-120°	747.5	13.1
90°-150°	2514.5	44.0
90°-180°	3564.0	62.3
0°-180°	5721.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	910	910	910	910	910	
5°	903	908	903	908	903	86
15°	863	863	860	863	863	243
25°	769	777	766	777	769	354
35°	634	663	631	663	634	397
45°	491	519	488	519	491	380
55°	366	314	364	314	366	327
65°	241	165	241	165	241	239
75°	128	83	132	83	128	144
85°	150	21	82	21	150	117
90°	208	1	50	1	208	115
95°	280	43	30	43	280	246
105°	459	209	15	209	459	482
115°	641	426	147	426	641	636
125°	802	668	364	668	802	716
135°	932	912	586	912	932	719
145°	1024	1141	788	1141	1024	645
155°	1144	1319	992	1319	1144	528
165°	1250	1435	1209	1435	1250	355
175°	1478	1495	1447	1495	1478	138
180°	1493	1493	1493	1493	1493	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	910.5	910.5	910.5	910.5	910.5	910.5	910.5	910.5	910.5	910.5	910.5
2.5°	906.6	907.0	907.3	917.7	914.3	916.7	907.3	907.0	907.6	907.0	907.3
5°	903.1	903.5	901.4	909.0	908.1	909.0	900.3	903.5	903.1	903.5	900.3
7.5°	895.7	896.1	895.3	901.4	903.9	900.3	894.2	895.1	895.7	895.1	894.2
10°	887.5	887.7	885.9	891.0	892.8	890.0	884.9	885.5	887.5	885.5	884.9
12.5°	876.8	878.3	870.5	875.6	876.2	875.6	870.5	876.2	874.7	876.2	870.5
15°	863.4	858.0	855.2	862.9	862.6	861.8	854.1	855.8	860.3	855.8	854.1
17.5°	842.3	842.7	839.1	843.1	843.1	843.1	838.0	841.7	839.1	841.7	838.0
20°	822.8	821.7	819.6	823.6	822.6	822.6	818.5	819.6	819.6	819.6	818.5
22.5°	797.1	799.6	796.7	799.8	801.4	798.9	795.6	797.6	795.0	797.6	795.6
25°	769.1	770.0	772.3	777.0	776.8	775.9	770.1	766.8	765.9	766.8	770.1
27.5°	738.6	741.9	749.4	756.0	758.1	755.0	747.3	738.8	735.4	738.8	747.3
30°	708.0	708.0	717.3	724.0	721.6	721.8	714.2	704.9	703.9	704.9	714.2
32.5°	672.4	672.4	685.1	696.8	694.7	694.7	681.9	668.2	668.2	668.2	681.9
35°	634.1	636.6	648.5	665.5	663.1	662.3	645.4	633.5	631.0	633.5	645.4
37.5°	597.6	595.9	609.5	629.0	636.2	625.9	606.4	592.8	594.5	592.8	606.4
40°	561.1	557.8	568.0	589.8	595.5	587.7	563.6	553.5	556.9	553.5	563.6
42.5°	526.4	520.4	525.3	548.3	557.3	546.1	522.1	516.2	522.1	516.2	522.1
45°	491.4	484.6	483.0	507.6	519.1	505.4	478.7	481.4	488.2	481.4	478.7
47.5°	460.9	451.6	444.8	459.8	475.0	458.8	440.5	448.4	457.7	448.4	440.5
50°	426.1	418.5	409.2	415.7	423.2	413.6	405.0	414.3	422.9	414.3	405.0
52.5°	397.3	388.0	374.2	375.0	368.0	372.9	371.0	383.7	394.1	383.7	371.0
55°	365.7	357.2	341.1	330.7	314.4	328.6	337.9	354.0	363.5	354.0	337.9
57.5°	335.2	329.2	308.0	287.5	266.9	285.4	304.9	326.1	333.0	326.1	304.9
60°	303.6	297.6	273.9	241.4	228.8	240.4	271.8	295.5	302.5	295.5	271.8
62.5°	273.0	268.8	240.8	204.2	192.1	203.1	238.7	266.7	272.0	266.7	238.7
65°	241.4	234.6	208.4	171.0	164.9	170.0	207.4	233.7	241.4	233.7	207.4
67.5°	209.2	202.4	176.1	143.8	142.9	143.8	175.1	201.4	209.2	201.4	175.1
70°	178.5	168.4	144.6	119.2	119.2	119.2	144.6	169.4	179.6	169.4	144.6
72.5°	151.4	138.7	118.3	98.8	101.0	97.7	118.3	139.7	153.5	139.7	118.3
75°	128.5	112.3	93.5	79.0	83.3	79.0	94.6	113.4	131.6	113.4	94.6
77.5°	117.4	96.2	73.1	62.0	67.1	62.0	74.2	93.0	113.2	93.0	74.2
80°	119.3	94.9	60.2	46.8	51.1	46.8	58.1	78.0	99.1	78.0	58.1
82.5°	130.9	105.4	62.6	33.2	35.8	33.2	50.0	67.4	90.9	67.4	50.0
85°	150.1	126.8	78.3	29.7	21.4	27.5	47.6	62.5	81.5	62.5	47.6
87.5°	176.2	158.3	102.0	39.5	6.8	24.8	41.9	57.0	67.6	57.0	41.9
90°	208.0	191.5	135.0	56.6	1.0	16.6	30.5	42.8	49.8	42.8	30.5
92.5°	245.9	230.7	168.9	83.4	17.7	10.6	24.3	35.6	39.2	35.6	24.3
95°	280.3	273.0	209.1	113.0	43.0	7.6	19.2	28.4	30.3	28.4	19.2
97.5°	320.7	316.3	250.4	148.5	75.8	13.5	17.3	26.3	25.5	26.3	17.3
100°	357.6	355.8	292.8	193.9	115.8	35.6	13.3	24.5	25.4	24.5	13.3
102.5°	412.6	398.3	331.9	237.1	159.1	66.3	17.5	18.6	20.3	18.6	17.5
105°	459.1	442.6	382.6	282.5	208.6	107.3	41.9	18.6	15.0	18.6	41.9
107.5°	500.1	488.0	429.1	328.9	261.4	154.9	77.8	40.7	27.6	40.7	77.8
110°	551.2	538.6	474.4	375.3	316.3	205.5	119.0	74.5	57.6	74.5	119.0



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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°	601.9	592.4	516.6	423.8	373.1	260.3	169.6	116.7	100.9	116.7	169.6
115°	640.9	635.6	566.0	469.2	425.8	322.5	226.3	166.2	147.2	166.2	226.3
117.5°	681.9	681.0	601.9	516.4	489.2	379.3	278.0	215.8	195.7	215.8	278.0
120°	733.7	725.3	651.4	562.9	550.1	438.4	335.0	272.8	252.7	272.8	335.0
122.5°	769.5	764.3	693.6	607.1	607.1	498.5	389.9	327.6	306.5	327.6	389.9
125°	802.2	800.1	725.3	651.4	668.2	554.3	451.0	387.7	364.5	387.7	451.0
127.5°	831.7	834.9	766.3	700.0	730.5	611.4	511.1	441.5	417.2	441.5	511.1
130°	857.1	867.6	805.3	744.3	789.6	673.6	564.9	495.3	479.5	495.3	564.9
132.5°	906.6	900.3	845.5	789.6	852.9	730.5	621.9	549.1	531.2	549.1	621.9
135°	932.0	934.1	880.2	828.6	911.9	787.5	675.7	603.9	586.0	603.9	675.7
137.5°	962.5	956.3	907.7	876.1	966.8	842.4	728.4	661.9	633.5	661.9	728.4
140°	984.7	983.6	943.6	918.2	1025.8	896.1	782.2	714.7	688.3	714.7	782.2
142.5°	1007.9	1015.1	979.4	964.6	1084.8	953.0	840.2	767.2	741.1	767.2	840.2
145°	1023.7	1037.4	1015.3	1022.6	1140.8	1016.3	890.9	816.0	788.5	816.0	890.9
147.5°	1050.1	1068.0	1041.6	1063.8	1189.2	1072.2	941.5	867.6	843.4	867.6	941.5
150°	1086.0	1094.4	1078.6	1120.7	1238.9	1134.5	993.1	917.3	892.9	917.3	993.1
152.5°	1114.3	1125.0	1107.0	1183.0	1277.9	1191.4	1050.1	965.8	937.2	965.8	1050.1
155°	1143.9	1148.2	1135.5	1243.1	1319.0	1247.2	1095.5	1019.5	992.1	1019.5	1095.5
157.5°	1171.4	1179.8	1165.0	1288.5	1354.9	1295.9	1147.1	1073.3	1049.0	1073.3	1147.1
160°	1200.9	1200.9	1209.4	1341.1	1384.4	1338.0	1202.0	1132.4	1098.6	1132.4	1202.0
162.5°	1204.1	1224.1	1269.5	1378.1	1412.9	1374.9	1261.0	1174.5	1145.0	1174.5	1261.0
165°	1250.5	1268.4	1337.0	1410.8	1435.0	1407.6	1333.8	1244.1	1209.4	1244.1	1333.8
167.5°	1299.0	1337.0	1391.8	1447.8	1456.1	1438.3	1389.8	1327.5	1295.9	1327.5	1389.8
170°	1378.1	1410.8	1438.3	1461.4	1473.1	1462.5	1424.5	1393.9	1373.9	1393.9	1424.5
172.5°	1439.5	1461.4	1472.0	1486.8	1480.2	1475.1	1456.1	1441.4	1430.0	1441.4	1456.1
175°	1478.5	1483.5	1493.1	1487.8	1495.0	1482.5	1483.5	1491.0	1446.9	1491.0	1483.5
177.5°	1492.2	1500.4	1495.1	1485.7	1487.6	1484.6	1488.8	1493.1	1485.9	1493.1	1488.8
180°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	910.5	910.5	910.5	910.5	910.5	910.5
2.5°	916.7	914.3	917.7	907.3	907.0	906.6
5°	909.0	908.1	909.0	901.4	903.5	903.1
7.5°	900.3	903.9	901.4	895.3	896.1	895.7
10°	890.0	892.8	891.0	885.9	887.7	887.5
12.5°	875.6	876.2	875.6	870.5	878.3	876.8
15°	861.8	862.6	862.9	855.2	858.0	863.4
17.5°	843.1	843.1	843.1	839.1	842.7	842.3
20°	822.6	822.6	823.6	819.6	821.7	822.8
22.5°	798.9	801.4	799.8	796.7	799.6	797.1
25°	775.9	776.8	777.0	772.3	770.0	769.1
27.5°	755.0	758.1	756.0	749.4	741.9	738.6
30°	721.8	721.6	724.0	717.3	708.0	708.0
32.5°	694.7	694.7	696.8	685.1	672.4	672.4
35°	662.3	663.1	665.5	648.5	636.6	634.1
37.5°	625.9	636.2	629.0	609.5	595.9	597.6
40°	587.7	595.5	589.8	568.0	557.8	561.1
42.5°	546.1	557.3	548.3	525.3	520.4	526.4
45°	505.4	519.1	507.6	483.0	484.6	491.4
47.5°	458.8	475.0	459.8	444.8	451.6	460.9
50°	413.6	423.2	415.7	409.2	418.5	426.1
52.5°	372.9	368.0	375.0	374.2	388.0	397.3
55°	328.6	314.4	330.7	341.1	357.2	365.7
57.5°	285.4	266.9	287.5	308.0	329.2	335.2
60°	240.4	228.8	241.4	273.9	297.6	303.6
62.5°	203.1	192.1	204.2	240.8	268.8	273.0
65°	170.0	164.9	171.0	208.4	234.6	241.4
67.5°	143.8	142.9	143.8	176.1	202.4	209.2
70°	119.2	119.2	119.2	144.6	168.4	178.5
72.5°	97.7	101.0	98.8	118.3	138.7	151.4
75°	79.0	83.3	79.0	93.5	112.3	128.5
77.5°	62.0	67.1	62.0	73.1	96.2	117.4
80°	46.8	51.1	46.8	60.2	94.9	119.3
82.5°	33.2	35.8	33.2	62.6	105.4	130.9
85°	27.5	21.4	29.7	78.3	126.8	150.1
87.5°	24.8	6.8	39.5	102.0	158.3	176.2
90°	16.6	1.0	56.6	135.0	191.5	208.0
92.5°	10.6	17.7	83.4	168.9	230.7	245.9
95°	7.6	43.0	113.0	209.1	273.0	280.3
97.5°	13.5	75.8	148.5	250.4	316.3	320.7
100°	35.6	115.8	193.9	292.8	355.8	357.6
102.5°	66.3	159.1	237.1	331.9	398.3	412.6
105°	107.3	208.6	282.5	382.6	442.6	459.1
107.5°	154.9	261.4	328.9	429.1	488.0	500.1
110°	205.5	316.3	375.3	474.4	538.6	551.2





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	260.3	373.1	423.8	516.6	592.4	601.9
115°	322.5	425.8	469.2	566.0	635.6	640.9
117.5°	379.3	489.2	516.4	601.9	681.0	681.9
120°	438.4	550.1	562.9	651.4	725.3	733.7
122.5°	498.5	607.1	607.1	693.6	764.3	769.5
125°	554.3	668.2	651.4	725.3	800.1	802.2
127.5°	611.4	730.5	700.0	766.3	834.9	831.7
130°	673.6	789.6	744.3	805.3	867.6	857.1
132.5°	730.5	852.9	789.6	845.5	900.3	906.6
135°	787.5	911.9	828.6	880.2	934.1	932.0
137.5°	842.4	966.8	876.1	907.7	956.3	962.5
140°	896.1	1025.8	918.2	943.6	983.6	984.7
142.5°	953.0	1084.8	964.6	979.4	1015.1	1007.9
145°	1016.3	1140.8	1022.6	1015.3	1037.4	1023.7
147.5°	1072.2	1189.2	1063.8	1041.6	1068.0	1050.1
150°	1134.5	1238.9	1120.7	1078.6	1094.4	1086.0
152.5°	1191.4	1277.9	1183.0	1107.0	1125.0	1114.3
155°	1247.2	1319.0	1243.1	1135.5	1148.2	1143.9
157.5°	1295.9	1354.9	1288.5	1165.0	1179.8	1171.4
160°	1338.0	1384.4	1341.1	1209.4	1200.9	1200.9
162.5°	1374.9	1412.9	1378.1	1269.5	1224.1	1204.1
165°	1407.6	1435.0	1410.8	1337.0	1268.4	1250.5
167.5°	1438.3	1456.1	1447.8	1391.8	1337.0	1299.0
170°	1462.5	1473.1	1461.4	1438.3	1410.8	1378.1
172.5°	1475.1	1480.2	1486.8	1472.0	1461.4	1439.5
175°	1482.5	1495.0	1487.8	1493.1	1483.5	1478.5
177.5°	1484.6	1487.6	1485.7	1495.1	1500.4	1492.2
180°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1

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