

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: P392672

Luminaire Tested: **MWL-4-42-25-UNV-L940-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392672
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-L940-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

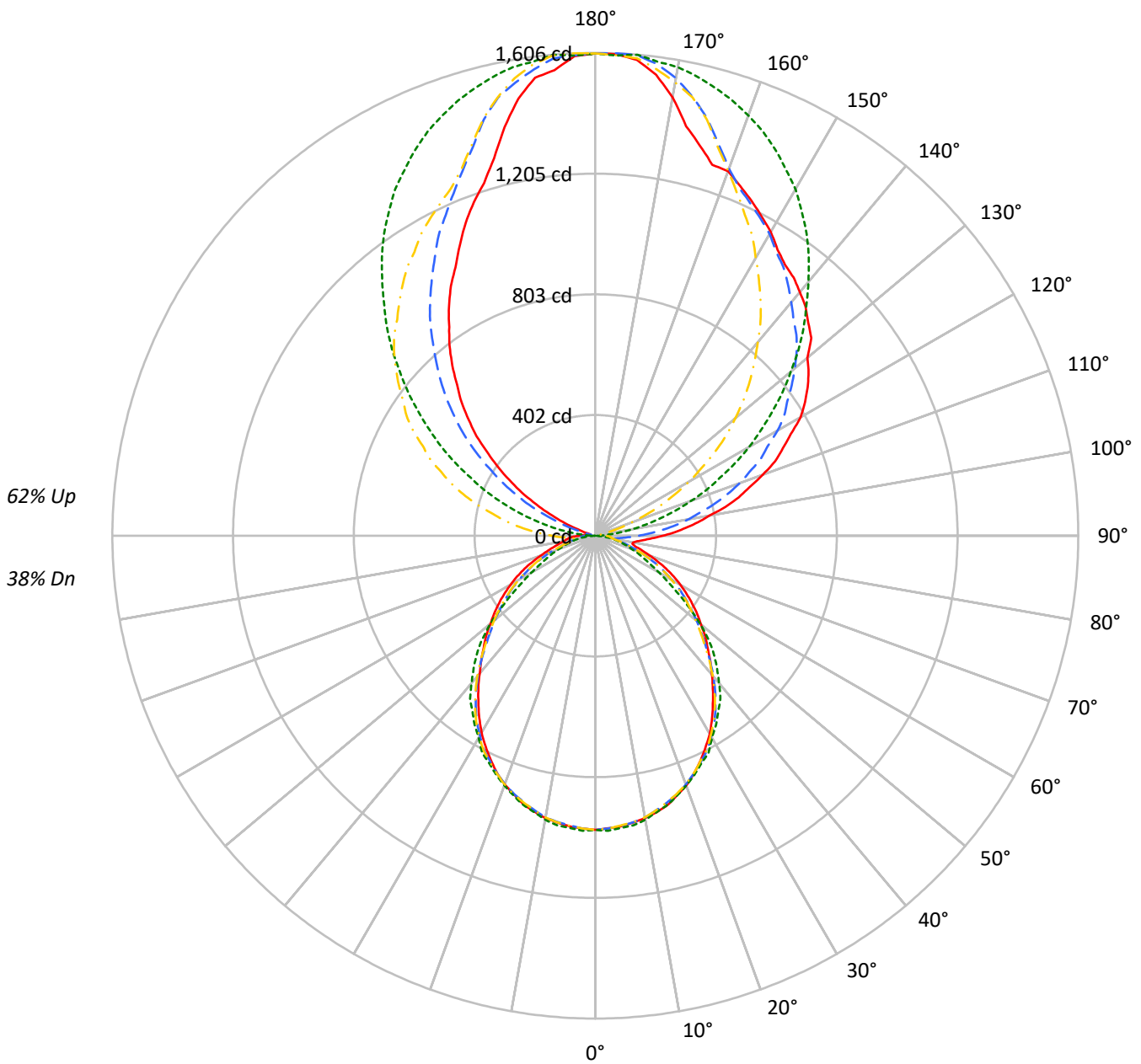
Lumens per Lamp: N/A
Luminaire Lumens: 6146.4 lumens
Efficiency: N/A
Efficacy: 91.4 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Indirect

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°	6318	6318	6318	6318
5°	6234	5817	6234	5817
10°	6140	5347	6140	5347
15°	6034	4887	6012	4887
20°	5853	4453	5831	4453
25°	5615	4056	5592	4056
30°	5351	3665	5319	3665
35°	5006	3304	4981	3304
40°	4674	2933	4639	2933
45°	4368	2547	4339	2547
50°	4092	2084	4061	2084
55°	3851	1566	3829	1566
60°	3569	1162	3556	1162
65°	3240	861	3240	861
70°	2816	645	2832	645
75°	2480	472	2541	472
80°	2995	306	2490	306
85°	5456	137	2963	137



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.2	1.5
10°-20°	260.1	4.2
20°-30°	382.2	6.2
30°-40°	434.5	7.1
40°-50°	409.0	6.7
50°-60°	328.1	5.3
60°-70°	218.1	3.5
70°-80°	115.0	1.9
80°-90°	78.2	1.3
90°-100°	128.0	2.1
100°-110°	248.9	4.1
110°-120°	426.2	6.9
120°-130°	579.1	9.4
130°-140°	660.5	10.7
140°-150°	658.8	10.7
150°-160°	573.7	9.3
160°-170°	403.6	6.6
170°-180°	150.3	2.4
0°-30°	734.5	12.0
0°-40°	1169.0	19.0
0°-60°	1906.1	31.0
0°-90°	2317.4	37.7
90°-120°	803.1	13.1
90°-150°	2701.4	44.0
90°-180°	3829.0	62.3
0°-180°	6146.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	978	978	978	978	978	
5°	970	976	970	976	970	92
15°	928	927	924	927	928	261
25°	826	835	823	835	826	380
35°	681	712	678	712	681	426
45°	528	558	524	558	528	409
55°	393	338	391	338	393	351
65°	259	177	259	177	259	256
75°	138	90	141	90	138	155
85°	161	23	88	23	161	126
90°	224	1	54	1	224	123
95°	301	46	32	46	301	264
105°	493	224	16	224	493	518
115°	688	458	158	458	688	683
125°	862	718	392	718	862	770
135°	1001	980	630	980	1001	773
145°	1100	1226	847	1226	1100	693
155°	1229	1417	1066	1417	1229	567
165°	1343	1542	1299	1542	1343	381
175°	1588	1606	1554	1606	1588	148
180°	1604	1604	1604	1604	1604	



TEST NUMBER: P392672

CATALOG NUMBER: MWL-4-42-25-UNV-L940-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	978.2	978.2	978.2	978.2	978.2	978.2	978.2	978.2	978.2	978.2	978.2
2.5°	974.0	974.4	974.8	986.0	982.3	984.8	974.8	974.4	975.1	974.4	974.8
5°	970.3	970.8	968.4	976.6	975.7	976.6	967.3	970.8	970.3	970.8	967.3
7.5°	962.3	962.8	961.8	968.4	971.1	967.3	960.8	961.7	962.3	961.7	960.8
10°	953.5	953.6	951.8	957.3	959.1	956.2	950.7	951.4	953.5	951.4	950.7
12.5°	942.0	943.6	935.2	940.7	941.3	940.7	935.2	941.3	939.8	941.3	935.2
15°	927.7	921.8	918.8	927.0	926.8	925.9	917.7	919.5	924.3	919.5	917.7
17.5°	904.9	905.4	901.5	905.8	905.8	905.8	900.3	904.3	901.5	904.3	900.3
20°	883.9	882.8	880.6	884.9	883.8	883.8	879.4	880.6	880.6	880.6	879.4
22.5°	856.3	859.1	856.0	859.3	861.0	858.3	854.8	856.9	854.2	856.9	854.8
25°	826.3	827.2	829.7	834.7	834.6	833.7	827.5	823.8	822.9	823.8	827.5
27.5°	793.5	797.1	805.1	812.2	814.5	811.1	802.9	793.8	790.1	793.8	802.9
30°	760.7	760.7	770.7	777.8	775.3	775.5	767.3	757.3	756.2	757.3	767.3
32.5°	722.4	722.4	736.1	748.7	746.4	746.4	732.7	717.9	717.9	717.9	732.7
35°	681.2	684.0	696.7	714.9	712.5	711.6	693.3	680.6	677.9	680.6	693.3
37.5°	642.1	640.2	654.8	675.8	683.5	672.4	651.4	636.9	638.7	636.9	651.4
40°	602.9	599.2	610.2	633.7	639.8	631.4	605.6	594.7	598.3	594.7	605.6
42.5°	565.5	559.1	564.4	589.0	598.8	586.7	561.0	554.6	561.0	554.6	561.0
45°	528.0	520.7	518.9	545.3	557.8	543.0	514.3	517.2	524.5	517.2	514.3
47.5°	495.2	485.2	477.9	494.0	510.4	492.9	473.3	481.7	491.7	481.7	473.3
50°	457.8	449.6	439.6	446.6	454.6	444.3	435.1	445.1	454.4	445.1	435.1
52.5°	426.9	416.8	402.0	402.9	395.4	400.6	398.6	412.3	423.4	412.3	398.6
55°	392.9	383.8	366.4	355.3	337.7	353.1	363.1	380.4	390.6	380.4	363.1
57.5°	360.1	353.7	330.9	308.9	286.7	306.6	327.5	350.3	357.8	350.3	327.5
60°	326.2	319.8	294.3	259.4	245.7	258.3	292.0	317.5	325.0	317.5	292.0
62.5°	293.4	288.8	258.8	219.3	206.4	218.2	256.5	286.5	292.2	286.5	256.5
65°	259.4	252.1	223.9	183.8	177.2	182.7	222.8	251.0	259.4	251.0	222.8
67.5°	224.8	217.5	189.2	154.4	153.5	154.4	188.1	216.4	224.8	216.4	188.1
70°	191.8	180.9	155.3	128.0	128.0	128.0	155.3	181.9	192.9	181.9	155.3
72.5°	162.6	149.0	127.1	106.1	108.6	105.0	127.1	150.1	164.9	150.1	127.1
75°	138.0	120.7	100.4	84.9	89.5	84.9	101.6	121.8	141.4	121.8	101.6
77.5°	126.1	103.4	78.5	66.7	72.2	66.7	79.7	99.9	121.6	99.9	79.7
80°	128.1	102.0	64.7	50.3	54.8	50.3	62.4	83.8	106.5	83.8	62.4
82.5°	140.7	113.2	67.3	35.7	38.4	35.7	53.8	72.4	97.7	72.4	53.8
85°	161.3	136.2	84.1	31.9	23.0	29.6	51.2	67.1	87.6	67.1	51.2
87.5°	189.3	170.0	109.6	42.5	7.3	26.6	45.0	61.2	72.6	61.2	45.0
90°	223.5	205.7	145.0	60.8	1.1	17.8	32.8	46.0	53.5	46.0	32.8
92.5°	264.2	247.9	181.4	89.6	19.0	11.4	26.1	38.3	42.1	38.3	26.1
95°	301.1	293.4	224.7	121.4	46.2	8.2	20.7	30.5	32.5	30.5	20.7
97.5°	344.6	339.8	269.0	159.5	81.4	14.5	18.7	28.2	27.3	28.2	18.7
100°	384.2	382.2	314.6	208.3	124.5	38.3	14.3	26.3	27.2	26.3	14.3
102.5°	443.3	427.9	356.5	254.7	170.9	71.2	18.9	20.0	21.8	20.0	18.9
105°	493.2	475.5	411.1	303.5	224.1	115.3	45.1	20.0	16.1	20.0	45.1
107.5°	537.4	524.2	461.0	353.3	280.8	166.4	83.6	43.7	29.7	43.7	83.6
110°	592.2	578.6	509.7	403.2	339.7	220.8	127.8	80.0	61.9	80.0	127.8



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CATALOG NUMBER: MWL-4-42-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	646.6	636.4	555.0	455.3	400.9	279.7	182.2	125.4	108.3	125.4	182.2
115°	688.5	682.9	608.1	504.0	457.6	346.5	243.2	178.6	158.2	178.6	243.2
117.5°	732.7	731.6	646.6	554.8	525.5	407.5	298.7	231.9	210.3	231.9	298.7
120°	788.3	779.2	699.8	604.7	591.0	470.9	359.9	293.0	271.5	293.0	359.9
122.5°	826.7	821.1	745.2	652.3	652.3	535.5	418.8	352.0	329.3	352.0	418.8
125°	861.9	859.6	779.2	699.8	717.9	595.6	484.5	416.6	391.6	416.6	484.5
127.5°	893.6	897.0	823.4	752.0	784.8	656.8	549.1	474.3	448.3	474.3	549.1
130°	920.8	932.1	865.3	799.6	848.3	723.7	607.0	532.2	515.1	532.2	607.0
132.5°	974.1	967.3	908.4	848.3	916.3	784.8	668.1	589.9	570.7	589.9	668.1
135°	1001.3	1003.6	945.7	890.2	979.7	846.0	725.9	648.9	629.6	648.9	725.9
137.5°	1034.1	1027.4	975.2	941.3	1038.7	905.0	782.5	711.2	680.6	711.2	782.5
140°	1058.0	1056.8	1013.8	986.5	1102.1	962.8	840.4	767.9	739.5	767.9	840.4
142.5°	1082.8	1090.5	1052.2	1036.4	1165.5	1023.9	902.7	824.3	796.2	824.3	902.7
145°	1099.8	1114.5	1090.7	1098.6	1225.5	1091.9	957.1	876.7	847.1	876.7	957.1
147.5°	1128.1	1147.3	1119.0	1142.8	1277.6	1151.9	1011.5	932.1	906.1	932.1	1011.5
150°	1166.7	1175.7	1158.7	1204.0	1330.9	1218.8	1067.0	985.4	959.4	985.4	1067.0
152.5°	1197.2	1208.6	1189.3	1270.9	1372.8	1279.9	1128.1	1037.6	1006.9	1037.6	1128.1
155°	1229.0	1233.4	1219.9	1335.5	1417.0	1340.0	1176.9	1095.2	1065.9	1095.2	1176.9
157.5°	1258.4	1267.5	1251.6	1384.2	1455.6	1392.2	1232.4	1153.0	1126.9	1153.0	1232.4
160°	1290.1	1290.1	1299.2	1440.8	1487.3	1437.4	1291.3	1216.5	1180.2	1216.5	1291.3
162.5°	1293.6	1315.1	1363.8	1480.5	1517.9	1477.1	1354.7	1261.8	1230.1	1261.8	1354.7
165°	1343.4	1362.6	1436.3	1515.6	1541.7	1512.2	1432.9	1336.6	1299.2	1336.6	1432.9
167.5°	1395.5	1436.3	1495.2	1555.3	1564.4	1545.1	1493.0	1426.1	1392.2	1426.1	1493.0
170°	1480.5	1515.6	1545.1	1570.0	1582.5	1571.2	1530.4	1497.5	1476.0	1497.5	1530.4
172.5°	1546.5	1570.0	1581.4	1597.2	1590.2	1584.8	1564.4	1548.5	1536.3	1548.5	1564.4
175°	1588.4	1593.8	1604.0	1598.3	1606.1	1592.7	1593.8	1601.8	1554.4	1601.8	1593.8
177.5°	1603.1	1611.9	1606.3	1596.1	1598.2	1595.0	1599.5	1604.0	1596.3	1604.0	1599.5
180°	1604.0	1604.0	1604.0	1604.0	1604.0	1604.0	1604.0	1604.0	1604.0	1604.0	1604.0



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CATALOG NUMBER: MWL-4-42-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	978.2	978.2	978.2	978.2	978.2	978.2
2.5°	984.8	982.3	986.0	974.8	974.4	974.0
5°	976.6	975.7	976.6	968.4	970.8	970.3
7.5°	967.3	971.1	968.4	961.8	962.8	962.3
10°	956.2	959.1	957.3	951.8	953.6	953.5
12.5°	940.7	941.3	940.7	935.2	943.6	942.0
15°	925.9	926.8	927.0	918.8	921.8	927.7
17.5°	905.8	905.8	905.8	901.5	905.4	904.9
20°	883.8	883.8	884.9	880.6	882.8	883.9
22.5°	858.3	861.0	859.3	856.0	859.1	856.3
25°	833.7	834.6	834.7	829.7	827.2	826.3
27.5°	811.1	814.5	812.2	805.1	797.1	793.5
30°	775.5	775.3	777.8	770.7	760.7	760.7
32.5°	746.4	746.4	748.7	736.1	722.4	722.4
35°	711.6	712.5	714.9	696.7	684.0	681.2
37.5°	672.4	683.5	675.8	654.8	640.2	642.1
40°	631.4	639.8	633.7	610.2	599.2	602.9
42.5°	586.7	598.8	589.0	564.4	559.1	565.5
45°	543.0	557.8	545.3	518.9	520.7	528.0
47.5°	492.9	510.4	494.0	477.9	485.2	495.2
50°	444.3	454.6	446.6	439.6	449.6	457.8
52.5°	400.6	395.4	402.9	402.0	416.8	426.9
55°	353.1	337.7	355.3	366.4	383.8	392.9
57.5°	306.6	286.7	308.9	330.9	353.7	360.1
60°	258.3	245.7	259.4	294.3	319.8	326.2
62.5°	218.2	206.4	219.3	258.8	288.8	293.4
65°	182.7	177.2	183.8	223.9	252.1	259.4
67.5°	154.4	153.5	154.4	189.2	217.5	224.8
70°	128.0	128.0	128.0	155.3	180.9	191.8
72.5°	105.0	108.6	106.1	127.1	149.0	162.6
75°	84.9	89.5	84.9	100.4	120.7	138.0
77.5°	66.7	72.2	66.7	78.5	103.4	126.1
80°	50.3	54.8	50.3	64.7	102.0	128.1
82.5°	35.7	38.4	35.7	67.3	113.2	140.7
85°	29.6	23.0	31.9	84.1	136.2	161.3
87.5°	26.6	7.3	42.5	109.6	170.0	189.3
90°	17.8	1.1	60.8	145.0	205.7	223.5
92.5°	11.4	19.0	89.6	181.4	247.9	264.2
95°	8.2	46.2	121.4	224.7	293.4	301.1
97.5°	14.5	81.4	159.5	269.0	339.8	344.6
100°	38.3	124.5	208.3	314.6	382.2	384.2
102.5°	71.2	170.9	254.7	356.5	427.9	443.3
105°	115.3	224.1	303.5	411.1	475.5	493.2
107.5°	166.4	280.8	353.3	461.0	524.2	537.4
110°	220.8	339.7	403.2	509.7	578.6	592.2



TEST NUMBER: P392672

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	279.7	400.9	455.3	555.0	636.4	646.6
115°	346.5	457.6	504.0	608.1	682.9	688.5
117.5°	407.5	525.5	554.8	646.6	731.6	732.7
120°	470.9	591.0	604.7	699.8	779.2	788.3
122.5°	535.5	652.3	652.3	745.2	821.1	826.7
125°	595.6	717.9	699.8	779.2	859.6	861.9
127.5°	656.8	784.8	752.0	823.4	897.0	893.6
130°	723.7	848.3	799.6	865.3	932.1	920.8
132.5°	784.8	916.3	848.3	908.4	967.3	974.1
135°	846.0	979.7	890.2	945.7	1003.6	1001.3
137.5°	905.0	1038.7	941.3	975.2	1027.4	1034.1
140°	962.8	1102.1	986.5	1013.8	1056.8	1058.0
142.5°	1023.9	1165.5	1036.4	1052.2	1090.5	1082.8
145°	1091.9	1225.5	1098.6	1090.7	1114.5	1099.8
147.5°	1151.9	1277.6	1142.8	1119.0	1147.3	1128.1
150°	1218.8	1330.9	1204.0	1158.7	1175.7	1166.7
152.5°	1279.9	1372.8	1270.9	1189.3	1208.6	1197.2
155°	1340.0	1417.0	1335.5	1219.9	1233.4	1229.0
157.5°	1392.2	1455.6	1384.2	1251.6	1267.5	1258.4
160°	1437.4	1487.3	1440.8	1299.2	1290.1	1290.1
162.5°	1477.1	1517.9	1480.5	1363.8	1315.1	1293.6
165°	1512.2	1541.7	1515.6	1436.3	1362.6	1343.4
167.5°	1545.1	1564.4	1555.3	1495.2	1436.3	1395.5
170°	1571.2	1582.5	1570.0	1545.1	1515.6	1480.5
172.5°	1584.8	1590.2	1597.2	1581.4	1570.0	1546.5
175°	1592.7	1606.1	1598.3	1604.0	1593.8	1588.4
177.5°	1595.0	1598.2	1596.1	1606.3	1611.9	1603.1
180°	1604.0	1604.0	1604.0	1604.0	1604.0	1604.0

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