

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: P392655

Luminaire Tested: **MWL-4-34-25-UNV-L830-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392655
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-L830-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

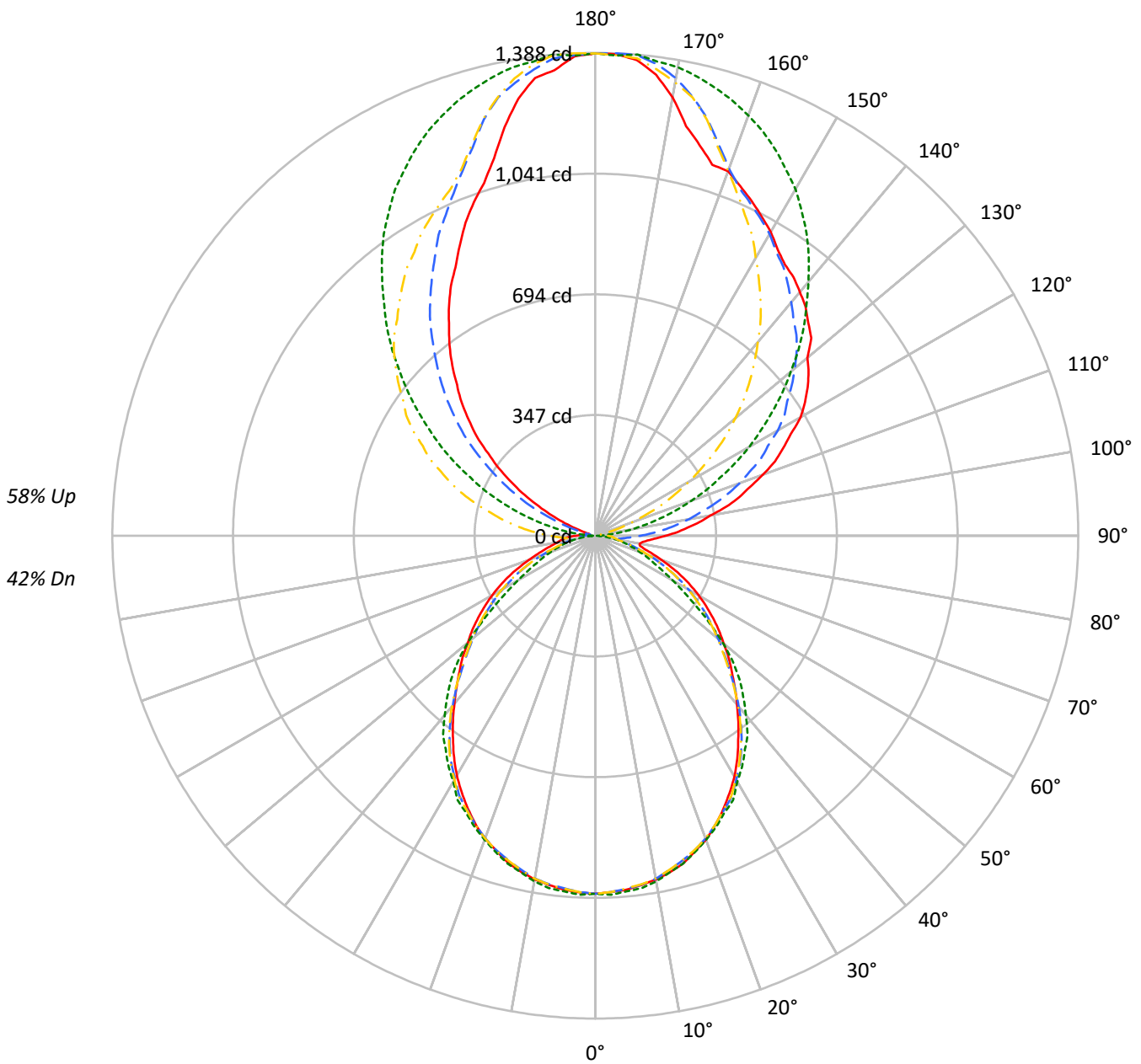
Lumens per Lamp: N/A
Luminaire Lumens: 5745.0 lumens
Efficiency: N/A
Efficacy: 100.6 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: General Diffuse

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°	6646	6646	6646	6646
5°	6562	6118	6562	6118
10°	6460	5625	6460	5625
15°	6345	5143	6325	5143
20°	6154	4687	6134	4687
25°	5905	4269	5885	4269
30°	5625	3858	5598	3858
35°	5262	3476	5241	3476
40°	4912	3085	4883	3085
45°	4590	2679	4566	2679
50°	4299	2192	4273	2192
55°	4046	1647	4027	1647
60°	3751	1221	3740	1221
65°	3406	905	3406	905
70°	2960	677	2974	677
75°	2604	496	2657	496
80°	3018	321	2586	321
85°	5148	143	2997	143



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.0	1.7
10°-20°	273.7	4.8
20°-30°	402.1	7.0
30°-40°	457.0	8.0
40°-50°	430.1	7.5
50°-60°	345.0	6.0
60°-70°	229.3	4.0
70°-80°	120.5	2.1
80°-90°	76.5	1.3
90°-100°	114.0	2.0
100°-110°	215.8	3.8
110°-120°	368.5	6.4
120°-130°	500.7	8.7
130°-140°	570.9	9.9
140°-150°	569.4	9.9
150°-160°	495.8	8.6
160°-170°	348.8	6.1
170°-180°	129.9	2.3
0°-30°	772.8	13.5
0°-40°	1229.7	21.4
0°-60°	2004.8	34.9
0°-90°	2431.2	42.3
90°-120°	698.3	12.2
90°-150°	2339.3	40.7
90°-180°	3314.0	57.7
0°-180°	5745.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1029	1029	1029	1029	1029	
5°	1021	1026	1021	1026	1021	97
15°	975	975	972	975	975	274
25°	869	878	866	878	869	400
35°	716	750	713	750	716	448
45°	555	587	552	587	555	430
55°	413	355	411	355	413	369
65°	273	186	273	186	273	269
75°	145	94	148	94	145	162
85°	152	24	89	24	152	120
90°	202	1	55	1	202	111
95°	266	40	34	40	266	232
105°	428	194	16	194	428	449
115°	595	396	137	396	595	591
125°	745	621	339	621	745	665
135°	865	847	544	847	865	668
145°	951	1059	732	1059	951	599
155°	1062	1225	921	1225	1062	490
165°	1161	1332	1123	1332	1161	329
175°	1373	1388	1343	1388	1373	128
180°	1386	1386	1386	1386	1386	



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CATALOG NUMBER: MWL-4-34-25-UNV-L830-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1
2.5°	1025.2	1025.2	1025.3	1036.8	1033.0	1035.9	1025.3	1025.2	1026.2	1025.2	1025.3
5°	1021.4	1021.4	1018.6	1027.2	1026.3	1027.2	1017.5	1021.4	1021.4	1021.4	1017.5
7.5°	1012.7	1012.7	1011.8	1018.6	1021.5	1017.5	1010.8	1011.8	1012.7	1011.8	1010.8
10°	1003.1	1003.1	1001.2	1007.0	1008.9	1006.0	1000.3	1001.2	1003.1	1001.2	1000.3
12.5°	990.8	992.6	983.9	989.7	990.7	989.7	983.9	990.7	988.7	990.7	983.9
15°	975.4	969.5	966.7	975.3	975.3	974.3	965.7	967.6	972.4	967.6	965.7
17.5°	951.4	952.3	948.4	953.2	953.2	953.2	947.5	951.3	948.4	951.3	947.5
20°	929.3	928.4	926.4	931.2	930.2	930.2	925.4	926.4	926.4	926.4	925.4
22.5°	900.5	903.4	900.4	904.3	906.2	903.3	899.5	901.4	898.5	901.4	899.5
25°	868.9	869.8	872.6	878.4	878.4	877.4	870.7	866.8	865.9	866.8	870.7
27.5°	834.3	838.1	846.7	854.4	857.2	853.4	844.8	835.2	831.3	835.2	844.8
30°	799.7	799.7	810.3	817.9	816.0	816.0	807.3	796.8	795.8	796.8	807.3
32.5°	759.4	759.4	773.8	787.2	785.3	785.3	770.9	755.5	755.5	755.5	770.9
35°	716.1	719.0	732.5	751.7	749.7	748.8	729.6	716.1	713.3	716.1	729.6
37.5°	674.9	673.0	688.3	710.4	719.0	707.5	685.4	670.1	672.0	670.1	685.4
40°	633.6	629.8	641.3	666.2	673.0	664.3	637.4	625.9	629.8	625.9	637.4
42.5°	594.2	587.5	593.3	619.2	629.8	617.3	590.4	583.7	590.4	583.7	590.4
45°	554.9	547.2	545.3	573.1	586.6	571.2	541.4	544.3	552.0	544.3	541.4
47.5°	520.3	509.8	502.1	519.4	536.7	518.4	498.2	506.9	517.5	506.9	498.2
50°	481.0	472.3	461.8	469.5	478.1	467.5	457.8	468.4	478.1	468.4	457.8
52.5°	448.3	437.8	422.4	423.4	415.7	421.5	419.5	433.9	445.5	433.9	419.5
55°	412.8	403.2	385.0	373.5	355.2	371.5	382.0	400.3	410.9	400.3	382.0
57.5°	378.3	371.6	347.6	324.5	301.5	322.5	344.6	368.6	376.4	368.6	344.6
60°	342.8	336.0	309.2	272.7	258.3	271.6	307.2	334.0	341.8	334.0	307.2
62.5°	308.2	303.4	271.7	230.5	216.9	229.4	269.7	301.4	307.2	301.4	269.7
65°	272.7	265.0	235.3	193.0	186.2	192.0	234.2	264.0	272.7	264.0	234.2
67.5°	236.2	228.5	198.8	162.2	161.3	162.2	197.7	227.5	236.2	227.5	197.7
70°	201.6	190.1	163.2	134.4	134.4	134.4	163.2	191.1	202.6	191.1	163.2
72.5°	170.9	156.5	133.4	111.3	114.2	110.4	133.4	157.5	172.9	157.5	133.4
75°	144.9	126.7	105.6	89.3	94.1	89.3	106.5	127.8	147.9	127.8	106.5
77.5°	130.7	107.6	82.5	70.1	75.8	70.1	83.5	104.7	126.8	104.7	83.5
80°	129.1	103.1	67.3	52.8	57.6	52.8	65.3	87.4	110.6	87.4	65.3
82.5°	137.3	110.2	67.5	37.4	40.3	37.4	55.8	75.0	100.1	75.0	55.8
85°	152.2	128.0	80.4	32.7	24.0	30.7	52.0	68.3	88.6	68.3	52.0
87.5°	174.1	155.7	101.1	40.7	7.7	27.0	45.3	61.7	73.2	61.7	45.3
90°	201.7	185.2	130.6	55.5	1.0	18.2	33.7	47.1	54.8	47.1	33.7
92.5°	235.2	220.6	161.1	79.1	16.6	11.5	27.0	39.4	43.3	39.4	27.0
95°	265.7	258.9	197.4	105.7	40.1	7.8	21.2	31.7	33.7	31.7	21.2
97.5°	302.1	298.1	234.7	138.0	70.5	12.7	18.3	28.9	27.9	28.9	18.3
100°	335.5	333.5	273.0	180.2	107.7	33.3	13.5	26.1	27.1	26.1	13.5
102.5°	385.5	371.8	308.4	220.3	147.8	61.6	16.6	19.4	21.3	19.4	16.6
105°	427.7	412.1	355.3	262.3	193.8	99.8	39.2	18.4	15.5	18.4	39.2
107.5°	465.0	453.2	398.4	305.4	242.7	143.9	72.5	38.1	26.4	38.1	72.5
110°	512.0	500.3	440.6	348.5	293.7	190.9	110.6	69.5	53.8	69.5	110.6



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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°	559.0	550.2	479.7	393.5	346.6	241.8	157.6	108.7	94.0	108.7	157.6
115°	595.2	590.3	525.7	435.7	395.6	299.6	210.5	154.6	137.1	154.6	210.5
117.5°	633.4	632.4	559.0	479.6	454.3	352.5	258.4	200.7	182.1	200.7	258.4
120°	681.4	673.5	605.0	522.7	511.0	407.3	311.3	253.5	235.0	253.5	311.3
122.5°	714.6	709.7	644.2	563.9	563.9	463.0	362.2	304.5	284.9	304.5	362.2
125°	745.0	743.0	673.5	605.0	620.6	515.0	419.0	360.2	338.7	360.2	419.0
127.5°	772.4	775.4	711.7	650.0	678.4	567.8	474.8	410.1	387.7	410.1	474.8
130°	795.9	805.7	747.9	691.2	733.2	625.5	524.8	460.2	445.5	460.2	524.8
132.5°	841.9	836.0	785.2	733.2	792.0	678.4	577.5	510.1	493.4	510.1	577.5
135°	865.4	867.4	817.4	769.5	846.8	731.3	627.6	560.9	544.3	560.9	627.6
137.5°	893.8	888.0	842.9	813.6	897.7	782.2	676.5	614.8	588.4	614.8	676.5
140°	914.4	913.4	876.2	852.7	952.6	832.1	726.4	663.7	639.3	663.7	726.4
142.5°	936.0	942.8	909.5	895.7	1007.4	885.0	780.3	712.7	688.2	712.7	780.3
145°	950.6	963.3	942.8	949.6	1059.3	943.7	827.2	757.7	732.3	757.7	827.2
147.5°	975.1	991.7	967.2	987.8	1104.3	995.7	874.2	805.7	783.1	805.7	874.2
150°	1008.3	1016.2	1001.5	1040.7	1150.3	1053.4	922.2	851.7	829.2	851.7	922.2
152.5°	1034.8	1044.6	1027.9	1098.5	1186.6	1106.2	975.1	896.8	870.3	896.8	975.1
155°	1062.2	1066.1	1054.4	1154.2	1224.8	1158.2	1017.2	946.7	921.3	946.7	1017.2
157.5°	1087.7	1095.5	1081.8	1196.4	1258.0	1203.2	1065.1	996.6	974.1	996.6	1065.1
160°	1115.1	1115.1	1122.9	1245.3	1285.4	1242.3	1116.0	1051.4	1020.1	1051.4	1116.0
162.5°	1118.0	1136.7	1178.7	1279.6	1311.8	1276.6	1170.9	1090.6	1063.2	1090.6	1170.9
165°	1161.1	1177.7	1241.4	1309.9	1332.5	1306.9	1238.4	1155.2	1122.9	1155.2	1238.4
167.5°	1206.1	1241.4	1292.2	1344.2	1352.0	1335.3	1290.3	1232.5	1203.2	1232.5	1290.3
170°	1279.6	1309.9	1335.3	1356.9	1367.7	1357.9	1322.7	1294.3	1275.6	1294.3	1322.7
172.5°	1336.4	1356.9	1366.7	1380.4	1374.5	1369.6	1352.0	1338.3	1327.6	1338.3	1352.0
175°	1372.6	1377.5	1386.3	1381.4	1388.2	1376.5	1377.5	1384.3	1343.2	1384.3	1377.5
177.5°	1385.4	1393.1	1388.2	1379.4	1381.3	1378.4	1382.4	1386.3	1379.4	1386.3	1382.4
180°	1386.3	1386.3	1386.3	1386.3	1386.3	1386.3	1386.3	1386.3	1386.3	1386.3	1386.3



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1029.1	1029.1	1029.1	1029.1	1029.1	1029.1
2.5°	1035.9	1033.0	1036.8	1025.3	1025.2	1025.2
5°	1027.2	1026.3	1027.2	1018.6	1021.4	1021.4
7.5°	1017.5	1021.5	1018.6	1011.8	1012.7	1012.7
10°	1006.0	1008.9	1007.0	1001.2	1003.1	1003.1
12.5°	989.7	990.7	989.7	983.9	992.6	990.8
15°	974.3	975.3	975.3	966.7	969.5	975.4
17.5°	953.2	953.2	953.2	948.4	952.3	951.4
20°	930.2	930.2	931.2	926.4	928.4	929.3
22.5°	903.3	906.2	904.3	900.4	903.4	900.5
25°	877.4	878.4	878.4	872.6	869.8	868.9
27.5°	853.4	857.2	854.4	846.7	838.1	834.3
30°	816.0	816.0	817.9	810.3	799.7	799.7
32.5°	785.3	785.3	787.2	773.8	759.4	759.4
35°	748.8	749.7	751.7	732.5	719.0	716.1
37.5°	707.5	719.0	710.4	688.3	673.0	674.9
40°	664.3	673.0	666.2	641.3	629.8	633.6
42.5°	617.3	629.8	619.2	593.3	587.5	594.2
45°	571.2	586.6	573.1	545.3	547.2	554.9
47.5°	518.4	536.7	519.4	502.1	509.8	520.3
50°	467.5	478.1	469.5	461.8	472.3	481.0
52.5°	421.5	415.7	423.4	422.4	437.8	448.3
55°	371.5	355.2	373.5	385.0	403.2	412.8
57.5°	322.5	301.5	324.5	347.6	371.6	378.3
60°	271.6	258.3	272.7	309.2	336.0	342.8
62.5°	229.4	216.9	230.5	271.7	303.4	308.2
65°	192.0	186.2	193.0	235.3	265.0	272.7
67.5°	162.2	161.3	162.2	198.8	228.5	236.2
70°	134.4	134.4	134.4	163.2	190.1	201.6
72.5°	110.4	114.2	111.3	133.4	156.5	170.9
75°	89.3	94.1	89.3	105.6	126.7	144.9
77.5°	70.1	75.8	70.1	82.5	107.6	130.7
80°	52.8	57.6	52.8	67.3	103.1	129.1
82.5°	37.4	40.3	37.4	67.5	110.2	137.3
85°	30.7	24.0	32.7	80.4	128.0	152.2
87.5°	27.0	7.7	40.7	101.1	155.7	174.1
90°	18.2	1.0	55.5	130.6	185.2	201.7
92.5°	11.5	16.6	79.1	161.1	220.6	235.2
95°	7.8	40.1	105.7	197.4	258.9	265.7
97.5°	12.7	70.5	138.0	234.7	298.1	302.1
100°	33.3	107.7	180.2	273.0	333.5	335.5
102.5°	61.6	147.8	220.3	308.4	371.8	385.5
105°	99.8	193.8	262.3	355.3	412.1	427.7
107.5°	143.9	242.7	305.4	398.4	453.2	465.0
110°	190.9	293.7	348.5	440.6	500.3	512.0



TEST NUMBER: P392655

CATALOG NUMBER: MWL-4-34-25-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	241.8	346.6	393.5	479.7	550.2	559.0
115°	299.6	395.6	435.7	525.7	590.3	595.2
117.5°	352.5	454.3	479.6	559.0	632.4	633.4
120°	407.3	511.0	522.7	605.0	673.5	681.4
122.5°	463.0	563.9	563.9	644.2	709.7	714.6
125°	515.0	620.6	605.0	673.5	743.0	745.0
127.5°	567.8	678.4	650.0	711.7	775.4	772.4
130°	625.5	733.2	691.2	747.9	805.7	795.9
132.5°	678.4	792.0	733.2	785.2	836.0	841.9
135°	731.3	846.8	769.5	817.4	867.4	865.4
137.5°	782.2	897.7	813.6	842.9	888.0	893.8
140°	832.1	952.6	852.7	876.2	913.4	914.4
142.5°	885.0	1007.4	895.7	909.5	942.8	936.0
145°	943.7	1059.3	949.6	942.8	963.3	950.6
147.5°	995.7	1104.3	987.8	967.2	991.7	975.1
150°	1053.4	1150.3	1040.7	1001.5	1016.2	1008.3
152.5°	1106.2	1186.6	1098.5	1027.9	1044.6	1034.8
155°	1158.2	1224.8	1154.2	1054.4	1066.1	1062.2
157.5°	1203.2	1258.0	1196.4	1081.8	1095.5	1087.7
160°	1242.3	1285.4	1245.3	1122.9	1115.1	1115.1
162.5°	1276.6	1311.8	1279.6	1178.7	1136.7	1118.0
165°	1306.9	1332.5	1309.9	1241.4	1177.7	1161.1
167.5°	1335.3	1352.0	1344.2	1292.2	1241.4	1206.1
170°	1357.9	1367.7	1356.9	1335.3	1309.9	1279.6
172.5°	1369.6	1374.5	1380.4	1366.7	1356.9	1336.4
175°	1376.5	1388.2	1381.4	1386.3	1377.5	1372.6
177.5°	1378.4	1381.3	1379.4	1388.2	1393.1	1385.4
180°	1386.3	1386.3	1386.3	1386.3	1386.3	1386.3

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