

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: P392657

Luminaire Tested: **MWL-4-34-25-UNV-L940-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392657
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-L940-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

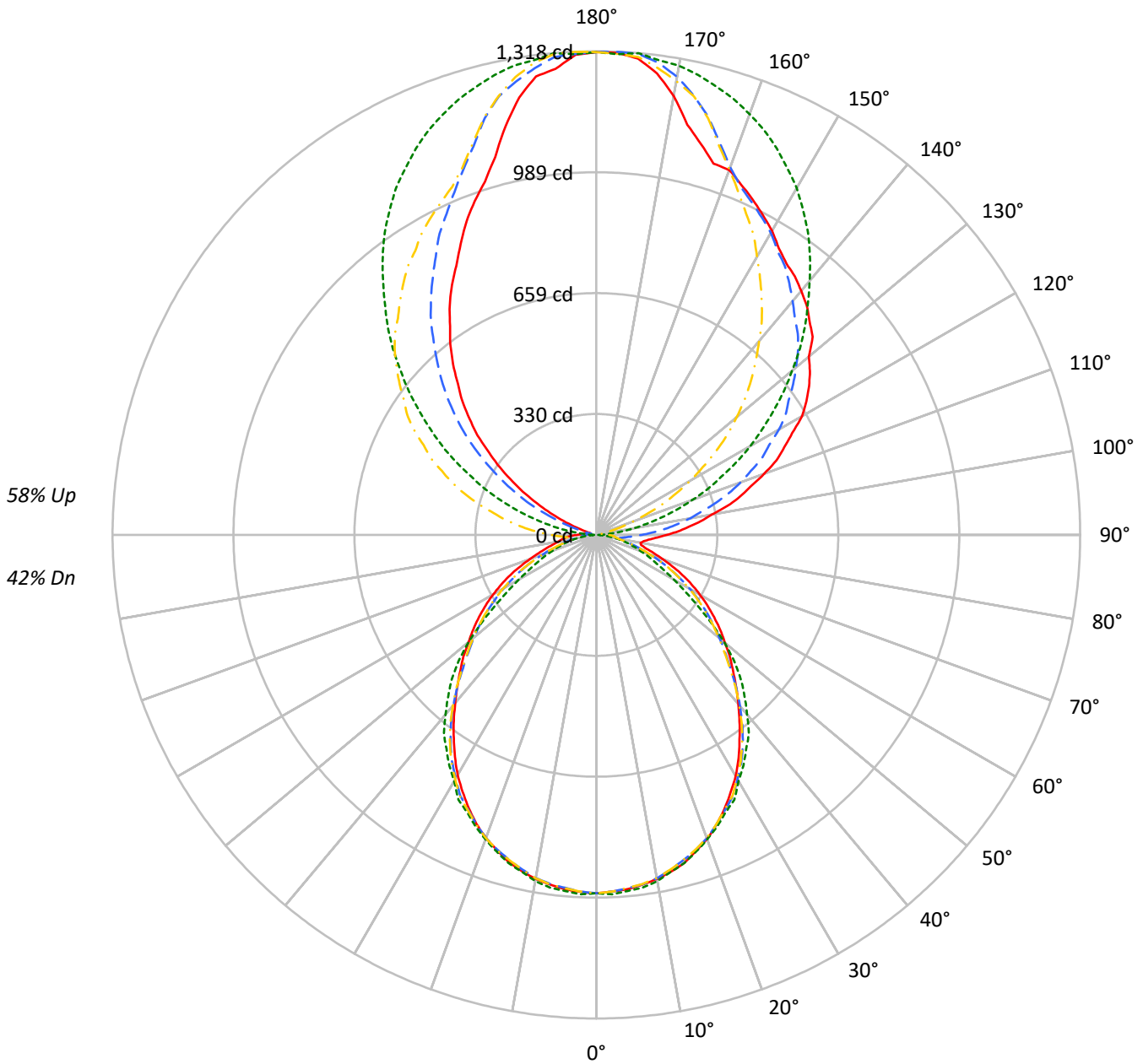
Lumens per Lamp: N/A
Luminaire Lumens: 5453.1 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 57.671
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: P392657
CATALOG NUMBER: MWL-4-34-25-UNV-L940-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	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°	6308	6308	6308	6308
5°	6228	5807	6228	5807
10°	6131	5339	6131	5339
15°	6022	4881	6003	4881
20°	5841	4449	5823	4449
25°	5605	4052	5586	4052
30°	5340	3662	5314	3662
35°	4995	3300	4975	3300
40°	4663	2928	4635	2928
45°	4357	2543	4334	2543
50°	4081	2080	4056	2080
55°	3841	1564	3823	1564
60°	3561	1159	3550	1159
65°	3233	859	3233	859
70°	2809	643	2823	643
75°	2472	471	2523	471
80°	2864	305	2455	305
85°	4888	136	2845	136



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	1.7
10°-20°	259.7	4.8
20°-30°	381.6	7.0
30°-40°	433.8	8.0
40°-50°	408.3	7.5
50°-60°	327.4	6.0
60°-70°	217.6	4.0
70°-80°	114.4	2.1
80°-90°	72.7	1.3
90°-100°	108.2	2.0
100°-110°	204.9	3.8
110°-120°	349.8	6.4
120°-130°	475.2	8.7
130°-140°	541.9	9.9
140°-150°	540.5	9.9
150°-160°	470.6	8.6
160°-170°	331.1	6.1
170°-180°	123.3	2.3
0°-30°	733.5	13.5
0°-40°	1167.3	21.4
0°-60°	1903.0	34.9
0°-90°	2307.7	42.3
90°-120°	662.9	12.2
90°-150°	2220.5	40.7
90°-180°	3145.0	57.7
0°-180°	5453.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	977	977	977	977	977	
5°	969	974	969	974	969	92
15°	926	926	923	926	926	260
25°	825	834	822	834	825	379
35°	680	712	677	712	680	425
45°	527	557	524	557	527	408
55°	392	337	390	337	392	350
65°	259	177	259	177	259	256
75°	138	89	140	89	138	153
85°	144	23	84	23	144	114
90°	191	1	52	1	191	106
95°	252	38	32	38	252	220
105°	406	184	15	184	406	427
115°	565	376	130	376	565	561
125°	707	589	322	589	707	632
135°	821	804	517	804	821	634
145°	902	1005	695	1005	902	569
155°	1008	1162	874	1162	1008	465
165°	1102	1265	1066	1265	1102	313
175°	1303	1318	1275	1318	1303	121
180°	1316	1316	1316	1316	1316	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	976.7	976.7	976.7	976.7	976.7	976.7	976.7	976.7	976.7	976.7	976.7
2.5°	973.1	973.1	973.1	984.1	980.4	983.2	973.1	973.1	974.0	973.1	973.1
5°	969.4	969.4	966.8	975.0	974.1	975.0	965.8	969.4	969.4	969.4	965.8
7.5°	961.2	961.2	960.3	966.8	969.5	965.8	959.4	960.3	961.2	960.3	959.4
10°	952.1	952.1	950.3	955.7	957.6	954.8	949.4	950.3	952.1	950.3	949.4
12.5°	940.3	942.1	933.9	939.3	940.3	939.3	933.9	940.3	938.4	940.3	933.9
15°	925.8	920.2	917.5	925.7	925.7	924.8	916.6	918.4	922.9	918.4	916.6
17.5°	903.1	903.8	900.3	904.7	904.7	904.7	899.3	903.0	900.3	903.0	899.3
20°	882.1	881.2	879.3	883.9	882.9	882.9	878.4	879.3	879.3	879.3	878.4
22.5°	854.8	857.5	854.7	858.3	860.2	857.4	853.8	855.6	852.9	855.6	853.8
25°	824.7	825.6	828.3	833.7	833.7	832.8	826.5	822.8	821.9	822.8	826.5
27.5°	791.9	795.6	803.7	811.0	813.7	810.1	801.9	792.7	789.1	792.7	801.9
30°	759.1	759.1	769.2	776.3	774.5	774.5	766.3	756.3	755.4	756.3	766.3
32.5°	720.9	720.9	734.5	747.2	745.4	745.4	731.7	717.1	717.1	717.1	731.7
35°	679.8	682.5	695.3	713.5	711.7	710.7	692.5	679.8	677.0	679.8	692.5
37.5°	640.6	638.8	653.3	674.3	682.5	671.6	650.6	636.0	637.9	636.0	650.6
40°	601.4	597.8	608.7	632.4	638.8	630.6	605.1	594.1	597.8	594.1	605.1
42.5°	564.1	557.7	563.2	587.8	597.8	585.9	560.4	554.0	560.4	554.0	560.4
45°	526.7	519.4	517.6	544.0	556.8	542.2	513.9	516.7	524.0	516.7	513.9
47.5°	493.9	483.9	476.6	493.0	509.4	492.1	472.9	481.2	491.2	481.2	472.9
50°	456.6	448.4	438.3	445.6	453.8	443.8	434.6	444.6	453.8	444.6	434.6
52.5°	425.6	415.6	401.0	401.9	394.6	400.1	398.2	411.8	422.8	411.8	398.2
55°	391.9	382.8	365.4	354.5	337.2	352.6	362.6	379.9	390.0	379.9	362.6
57.5°	359.1	352.7	329.9	308.0	286.2	306.1	327.1	349.9	357.2	349.9	327.1
60°	325.4	319.0	293.5	258.8	245.2	257.8	291.6	317.1	324.4	317.1	291.6
62.5°	292.6	288.0	257.9	218.8	205.9	217.8	256.0	286.1	291.6	286.1	256.0
65°	258.8	251.6	223.3	183.2	176.8	182.2	222.3	250.6	258.8	250.6	222.3
67.5°	224.2	216.9	188.7	154.0	153.1	154.0	187.7	215.9	224.2	215.9	187.7
70°	191.3	180.4	154.9	127.6	127.6	127.6	154.9	181.4	192.3	181.4	154.9
72.5°	162.2	148.5	126.6	105.7	108.4	104.8	126.6	149.5	164.1	149.5	126.6
75°	137.6	120.3	100.2	84.7	89.3	84.7	101.1	121.3	140.4	121.3	101.1
77.5°	124.1	102.1	78.4	66.5	72.0	66.5	79.3	99.4	120.4	99.4	79.3
80°	122.5	97.9	63.9	50.1	54.7	50.1	62.0	83.0	105.0	83.0	62.0
82.5°	130.3	104.6	64.1	35.5	38.3	35.5	52.9	71.2	95.0	71.2	52.9
85°	144.5	121.5	76.4	31.1	22.8	29.2	49.4	64.9	84.1	64.9	49.4
87.5°	165.3	147.8	95.9	38.6	7.3	25.6	43.0	58.6	69.5	58.6	43.0
90°	191.4	175.8	124.0	52.7	0.9	17.3	32.0	44.7	52.0	44.7	32.0
92.5°	223.2	209.4	152.9	75.1	15.8	10.9	25.6	37.4	41.1	37.4	25.6
95°	252.2	245.7	187.4	100.3	38.1	7.4	20.1	30.1	32.0	30.1	20.1
97.5°	286.7	283.0	222.8	131.0	66.9	12.0	17.4	27.4	26.5	27.4	17.4
100°	318.4	316.5	259.1	171.0	102.2	31.6	12.8	24.8	25.7	24.8	12.8
102.5°	365.9	353.0	292.7	209.1	140.3	58.5	15.8	18.4	20.2	18.4	15.8
105°	406.0	391.1	337.3	249.0	184.0	94.8	37.2	17.5	14.7	17.5	37.2
107.5°	441.3	430.2	378.2	289.9	230.4	136.6	68.8	36.2	25.1	36.2	68.8
110°	486.0	474.9	418.2	330.8	278.8	181.2	105.0	66.0	51.1	66.0	105.0



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CATALOG NUMBER: MWL-4-34-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	530.6	522.2	455.4	373.6	329.0	229.5	149.6	103.1	89.2	103.1	149.6
115°	565.0	560.3	499.0	413.5	375.5	284.4	199.8	146.8	130.1	146.8	199.8
117.5°	601.2	600.3	530.6	455.3	431.2	334.6	245.3	190.5	172.8	190.5	245.3
120°	646.8	639.3	574.3	496.2	485.1	386.6	295.5	240.6	223.0	240.6	295.5
122.5°	678.3	673.7	611.4	535.3	535.3	439.5	343.8	289.0	270.4	289.0	343.8
125°	707.2	705.3	639.3	574.3	589.1	488.8	397.7	341.9	321.5	341.9	397.7
127.5°	733.2	736.0	675.6	617.0	644.0	538.9	450.7	389.3	368.0	389.3	450.7
130°	755.5	764.8	709.9	656.1	696.0	593.8	498.1	436.8	422.8	436.8	498.1
132.5°	799.1	793.6	745.3	696.0	751.7	644.0	548.2	484.2	468.3	484.2	548.2
135°	821.4	823.4	775.9	730.4	803.8	694.2	595.7	532.4	516.7	532.4	595.7
137.5°	848.4	842.9	800.1	772.2	852.2	742.5	642.1	583.6	558.5	583.6	642.1
140°	867.9	867.0	831.7	809.4	904.1	789.8	689.5	630.0	606.8	630.0	689.5
142.5°	888.4	894.9	863.3	850.2	956.1	840.0	740.6	676.5	653.3	676.5	740.6
145°	902.4	914.3	894.9	901.4	1005.4	895.8	785.2	719.2	695.1	719.2	785.2
147.5°	925.5	941.3	918.0	937.5	1048.1	945.0	829.8	764.8	743.4	764.8	829.8
150°	957.0	964.5	950.6	987.7	1091.8	999.8	875.4	808.4	787.1	808.4	875.4
152.5°	982.2	991.5	975.6	1042.6	1126.2	1050.0	925.5	851.2	826.1	851.2	925.5
155°	1008.1	1011.9	1000.8	1095.5	1162.5	1099.2	965.4	898.6	874.5	898.6	965.4
157.5°	1032.4	1039.7	1026.7	1135.5	1194.0	1142.0	1011.0	945.9	924.5	945.9	1011.0
160°	1058.3	1058.3	1065.8	1182.0	1220.1	1179.1	1059.2	997.9	968.2	997.9	1059.2
162.5°	1061.2	1078.8	1118.7	1214.5	1245.1	1211.7	1111.4	1035.1	1009.1	1035.1	1111.4
165°	1102.1	1117.8	1178.2	1243.3	1264.7	1240.5	1175.4	1096.4	1065.8	1096.4	1175.4
167.5°	1144.8	1178.2	1226.5	1275.8	1283.3	1267.4	1224.7	1169.9	1142.0	1169.9	1224.7
170°	1214.5	1243.3	1267.4	1287.9	1298.1	1288.8	1255.4	1228.4	1210.8	1228.4	1255.4
172.5°	1268.4	1287.9	1297.2	1310.2	1304.6	1300.0	1283.3	1270.3	1260.1	1270.3	1283.3
175°	1302.8	1307.4	1315.8	1311.2	1317.6	1306.5	1307.4	1313.9	1274.9	1313.9	1307.4
177.5°	1314.9	1322.3	1317.6	1309.3	1311.1	1308.3	1312.1	1315.8	1309.3	1315.8	1312.1
180°	1315.8	1315.8	1315.8	1315.8	1315.8	1315.8	1315.8	1315.8	1315.8	1315.8	1315.8



TEST NUMBER: P392657

CATALOG NUMBER: MWL-4-34-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	976.7	976.7	976.7	976.7	976.7	976.7
2.5°	983.2	980.4	984.1	973.1	973.1	973.1
5°	975.0	974.1	975.0	966.8	969.4	969.4
7.5°	965.8	969.5	966.8	960.3	961.2	961.2
10°	954.8	957.6	955.7	950.3	952.1	952.1
12.5°	939.3	940.3	939.3	933.9	942.1	940.3
15°	924.8	925.7	925.7	917.5	920.2	925.8
17.5°	904.7	904.7	904.7	900.3	903.8	903.1
20°	882.9	882.9	883.9	879.3	881.2	882.1
22.5°	857.4	860.2	858.3	854.7	857.5	854.8
25°	832.8	833.7	833.7	828.3	825.6	824.7
27.5°	810.1	813.7	811.0	803.7	795.6	791.9
30°	774.5	774.5	776.3	769.2	759.1	759.1
32.5°	745.4	745.4	747.2	734.5	720.9	720.9
35°	710.7	711.7	713.5	695.3	682.5	679.8
37.5°	671.6	682.5	674.3	653.3	638.8	640.6
40°	630.6	638.8	632.4	608.7	597.8	601.4
42.5°	585.9	597.8	587.8	563.2	557.7	564.1
45°	542.2	556.8	544.0	517.6	519.4	526.7
47.5°	492.1	509.4	493.0	476.6	483.9	493.9
50°	443.8	453.8	445.6	438.3	448.4	456.6
52.5°	400.1	394.6	401.9	401.0	415.6	425.6
55°	352.6	337.2	354.5	365.4	382.8	391.9
57.5°	306.1	286.2	308.0	329.9	352.7	359.1
60°	257.8	245.2	258.8	293.5	319.0	325.4
62.5°	217.8	205.9	218.8	257.9	288.0	292.6
65°	182.2	176.8	183.2	223.3	251.6	258.8
67.5°	154.0	153.1	154.0	188.7	216.9	224.2
70°	127.6	127.6	127.6	154.9	180.4	191.3
72.5°	104.8	108.4	105.7	126.6	148.5	162.2
75°	84.7	89.3	84.7	100.2	120.3	137.6
77.5°	66.5	72.0	66.5	78.4	102.1	124.1
80°	50.1	54.7	50.1	63.9	97.9	122.5
82.5°	35.5	38.3	35.5	64.1	104.6	130.3
85°	29.2	22.8	31.1	76.4	121.5	144.5
87.5°	25.6	7.3	38.6	95.9	147.8	165.3
90°	17.3	0.9	52.7	124.0	175.8	191.4
92.5°	10.9	15.8	75.1	152.9	209.4	223.2
95°	7.4	38.1	100.3	187.4	245.7	252.2
97.5°	12.0	66.9	131.0	222.8	283.0	286.7
100°	31.6	102.2	171.0	259.1	316.5	318.4
102.5°	58.5	140.3	209.1	292.7	353.0	365.9
105°	94.8	184.0	249.0	337.3	391.1	406.0
107.5°	136.6	230.4	289.9	378.2	430.2	441.3
110°	181.2	278.8	330.8	418.2	474.9	486.0



TEST NUMBER: P392657

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	229.5	329.0	373.6	455.4	522.2	530.6
115°	284.4	375.5	413.5	499.0	560.3	565.0
117.5°	334.6	431.2	455.3	530.6	600.3	601.2
120°	386.6	485.1	496.2	574.3	639.3	646.8
122.5°	439.5	535.3	535.3	611.4	673.7	678.3
125°	488.8	589.1	574.3	639.3	705.3	707.2
127.5°	538.9	644.0	617.0	675.6	736.0	733.2
130°	593.8	696.0	656.1	709.9	764.8	755.5
132.5°	644.0	751.7	696.0	745.3	793.6	799.1
135°	694.2	803.8	730.4	775.9	823.4	821.4
137.5°	742.5	852.2	772.2	800.1	842.9	848.4
140°	789.8	904.1	809.4	831.7	867.0	867.9
142.5°	840.0	956.1	850.2	863.3	894.9	888.4
145°	895.8	1005.4	901.4	894.9	914.3	902.4
147.5°	945.0	1048.1	937.5	918.0	941.3	925.5
150°	999.8	1091.8	987.7	950.6	964.5	957.0
152.5°	1050.0	1126.2	1042.6	975.6	991.5	982.2
155°	1099.2	1162.5	1095.5	1000.8	1011.9	1008.1
157.5°	1142.0	1194.0	1135.5	1026.7	1039.7	1032.4
160°	1179.1	1220.1	1182.0	1065.8	1058.3	1058.3
162.5°	1211.7	1245.1	1214.5	1118.7	1078.8	1061.2
165°	1240.5	1264.7	1243.3	1178.2	1117.8	1102.1
167.5°	1267.4	1283.3	1275.8	1226.5	1178.2	1144.8
170°	1288.8	1298.1	1287.9	1267.4	1243.3	1214.5
172.5°	1300.0	1304.6	1310.2	1297.2	1287.9	1268.4
175°	1306.5	1317.6	1311.2	1315.8	1307.4	1302.8
177.5°	1308.3	1311.1	1309.3	1317.6	1322.3	1314.9
180°	1315.8	1315.8	1315.8	1315.8	1315.8	1315.8

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