

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: P392616

Luminaire Tested: **MWL-3-53-25-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392616
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-13 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-3-53-25-UNV-L930-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

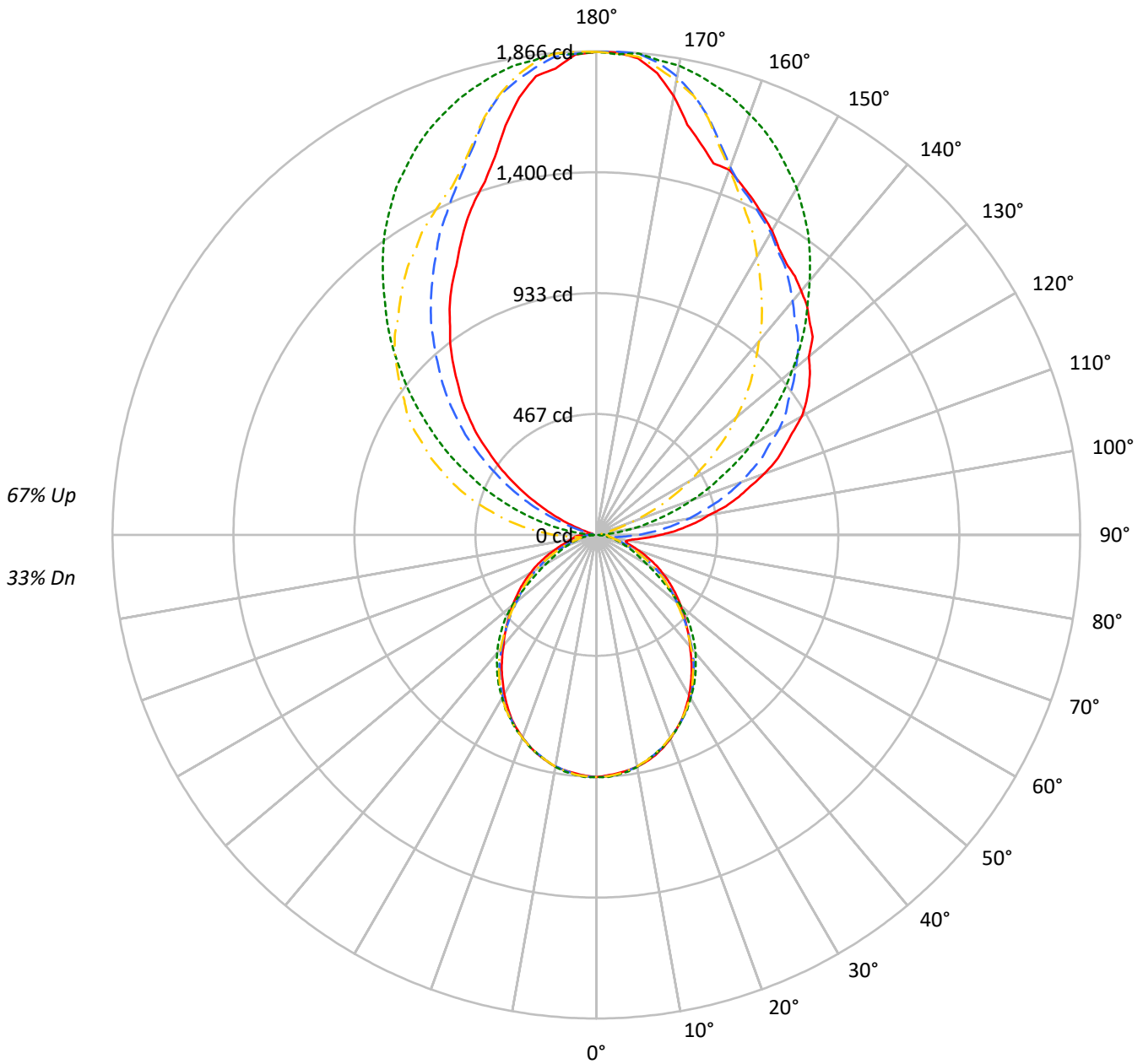
Lumens per Lamp: N/A
Luminaire Lumens: 6602.9 lumens
Efficiency: N/A
Efficacy: 69.8 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.16 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Indirect

Input Watts (W): 94.536
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: P392616
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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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	94	90	86	82	84	81	78	75	65	62	60	49	48	47	36	35	34	28
2	86	79	73	68	77	71	66	62	57	53	50	44	41	39	32	30	29	23
3	78	69	62	57	70	63	57	52	50	46	42	39	36	33	28	26	25	20
4	72	61	54	48	64	56	49	44	45	40	36	35	31	29	25	23	22	17
5	66	55	47	41	59	50	43	38	40	35	31	31	28	25	23	21	19	15
6	61	49	41	36	54	44	38	33	36	31	27	28	25	22	21	18	17	14
7	56	44	36	31	50	40	33	29	33	28	24	26	22	19	19	17	15	12
8	52	40	33	27	47	36	30	25	30	25	21	23	20	17	17	15	13	11
9	48	36	29	24	43	33	27	23	27	22	19	22	18	16	16	14	12	10
10	45	33	26	22	41	30	24	20	25	20	17	20	16	14	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	8049	8049	8049	8049
5°	7890	7387	7890	7387
10°	7750	6753	7750	6753
15°	7562	6156	7528	6156
20°	7291	5606	7257	5606
25°	6980	5078	6945	5078
30°	6585	4583	6537	4583
35°	6137	4113	6099	4113
40°	5657	3641	5605	3641
45°	5244	3149	5203	3149
50°	4880	2579	4834	2579
55°	4499	1922	4465	1922
60°	4086	1410	4068	1410
65°	3631	1069	3631	1069
70°	3096	789	3122	789
75°	2704	574	2794	574
80°	3423	375	2730	375
85°	6449	165	3177	165



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.9	1.3
10°-20°	246.7	3.7
20°-30°	360.1	5.5
30°-40°	407.1	6.2
40°-50°	381.1	5.8
50°-60°	301.0	4.6
60°-70°	197.1	3.0
70°-80°	103.7	1.6
80°-90°	78.2	1.2
90°-100°	143.6	2.2
100°-110°	287.7	4.4
110°-120°	494.7	7.5
120°-130°	672.1	10.2
130°-140°	766.9	11.6
140°-150°	765.2	11.6
150°-160°	666.3	10.1
160°-170°	468.8	7.1
170°-180°	174.6	2.6
0°-30°	694.7	10.5
0°-40°	1101.8	16.7
0°-60°	1783.9	27.0
0°-90°	2162.9	32.8
90°-120°	926.0	14.0
90°-150°	3130.2	47.4
90°-180°	4440.0	67.2
0°-180°	6602.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	935	935	935	935	935	
5°	924	929	924	929	924	88
15°	880	876	876	876	880	247
25°	782	784	778	784	782	359
35°	641	665	637	665	641	400
45°	490	517	487	517	490	380
55°	359	311	356	311	359	322
65°	231	165	231	165	231	230
75°	123	82	128	82	123	140
85°	169	21	83	21	169	129
90°	246	1	49	1	246	136
95°	344	54	32	54	344	302
105°	569	260	14	260	569	599
115°	800	532	183	532	800	794
125°	1001	833	455	833	1001	894
135°	1163	1137	731	1137	1163	898
145°	1278	1423	984	1423	1278	806
155°	1428	1646	1238	1646	1428	659
165°	1561	1791	1510	1791	1561	443
175°	1846	1865	1806	1865	1846	172
180°	1864	1864	1864	1864	1864	



TEST NUMBER: P392616

CATALOG NUMBER: MWL-3-53-25-UNV-L930-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	934.7	934.7	934.7	934.7	934.7	934.7	934.7	934.7	934.7	934.7	934.7
2.5°	929.0	933.3	932.6	934.7	935.6	933.5	932.6	933.3	930.3	933.3	932.6
5°	923.9	928.2	928.4	928.4	929.3	928.4	927.1	928.2	923.9	928.2	927.1
7.5°	916.9	920.3	918.6	920.8	921.7	919.5	917.3	919.0	916.9	919.0	917.3
10°	908.0	908.5	907.6	908.5	908.5	907.1	906.3	905.9	908.0	905.9	906.3
12.5°	895.5	893.3	891.9	893.6	892.3	893.6	891.9	890.6	892.7	890.6	891.9
15°	879.8	877.2	875.0	876.7	875.5	875.5	873.7	874.6	875.8	874.6	873.7
17.5°	859.5	856.9	855.6	856.8	856.8	856.8	854.3	855.6	855.6	855.6	854.3
20°	835.9	836.3	833.6	835.7	834.4	834.4	832.3	833.6	831.9	833.6	832.3
22.5°	809.3	810.9	810.0	811.2	810.7	809.9	808.7	808.2	806.5	808.2	808.7
25°	782.2	781.4	784.3	786.7	783.6	785.3	781.6	777.4	778.3	777.4	781.6
27.5°	748.4	753.4	756.3	760.0	758.3	758.8	753.7	749.5	744.5	749.5	753.7
30°	715.4	718.0	726.4	731.0	727.0	728.3	722.5	714.0	710.1	714.0	722.5
32.5°	677.4	682.5	691.8	699.7	697.1	697.1	687.8	677.2	672.1	677.2	687.8
35°	640.6	642.2	654.1	665.9	665.3	662.0	650.1	638.3	636.6	638.3	650.1
37.5°	600.9	602.5	616.1	630.4	629.5	626.5	612.1	598.6	596.9	598.6	612.1
40°	561.9	562.8	573.8	591.9	595.7	589.2	568.5	557.5	556.7	557.5	568.5
42.5°	528.1	522.2	529.4	551.3	557.6	548.7	525.5	517.0	522.9	517.0	525.5
45°	490.4	483.7	487.9	508.2	517.1	505.6	482.7	479.8	486.6	479.8	482.7
47.5°	456.6	448.2	447.4	461.3	474.9	460.0	442.1	444.3	452.8	444.3	442.1
50°	424.6	414.4	406.8	416.5	421.9	413.9	401.5	409.2	420.6	409.2	401.5
52.5°	392.4	382.3	370.0	372.5	365.3	369.9	366.0	377.0	388.6	377.0	366.0
55°	359.1	350.6	336.2	327.3	310.8	324.6	332.2	346.6	356.4	346.6	332.2
57.5°	327.7	321.0	303.2	284.1	264.3	281.5	299.3	317.1	325.2	317.1	299.3
60°	294.3	290.9	267.2	239.8	223.7	238.4	264.6	288.3	293.0	288.3	264.6
62.5°	264.7	258.8	233.4	201.7	190.3	200.4	230.8	256.1	263.4	256.1	230.8
65°	231.3	227.1	198.4	170.5	164.9	169.1	197.0	225.8	231.3	225.8	197.0
67.5°	201.7	193.3	169.6	139.6	139.6	139.6	168.3	191.9	201.7	191.9	168.3
70°	169.9	161.5	139.6	116.8	117.5	116.8	139.6	162.9	171.3	162.9	139.6
72.5°	145.5	132.8	114.2	95.6	97.7	94.3	114.2	134.1	148.1	134.1	114.2
75°	123.4	108.3	90.1	77.4	81.6	77.4	91.4	109.6	127.5	109.6	91.4
77.5°	115.4	92.4	70.6	60.5	65.6	60.5	71.9	88.5	110.2	88.5	71.9
80°	123.4	95.7	59.3	46.1	50.4	46.1	56.7	74.6	98.4	74.6	56.7
82.5°	139.0	113.6	65.0	33.5	35.1	33.5	49.2	66.2	89.0	66.2	49.2
85°	168.9	143.9	86.4	28.9	20.8	26.3	48.2	63.5	83.2	63.5	48.2
87.5°	205.2	185.8	118.7	43.6	5.9	25.2	43.6	59.4	69.6	59.4	43.6
90°	246.5	229.9	161.0	65.3	1.3	15.3	30.6	44.2	49.0	44.2	30.6
92.5°	296.8	279.3	204.6	101.1	21.9	10.2	24.2	35.7	38.7	35.7	24.2
95°	343.9	334.3	256.1	138.6	53.5	7.0	19.2	28.8	31.9	28.8	19.2
97.5°	396.0	387.7	308.3	185.2	94.3	16.6	17.2	25.5	27.2	25.5	17.2
100°	441.4	438.4	362.4	241.8	144.3	44.3	13.5	24.9	26.6	24.9	13.5
102.5°	511.4	493.1	413.0	295.8	198.4	82.5	20.6	19.0	21.6	19.0	20.6
105°	568.6	547.7	477.5	352.5	260.2	133.8	52.2	18.3	14.3	18.3	52.2
107.5°	621.9	608.8	535.5	410.4	326.0	193.1	96.9	50.4	32.0	50.4	96.9
110°	687.8	671.9	592.1	468.3	394.6	256.3	148.4	92.5	71.5	92.5	148.4



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CATALOG NUMBER: MWL-3-53-25-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	751.0	739.1	644.8	528.9	465.7	324.8	211.6	145.2	125.5	145.2	211.6
115°	799.7	793.2	705.4	585.5	531.6	402.5	281.3	207.2	183.4	207.2	281.3
117.5°	851.0	849.8	750.1	643.5	610.5	472.3	345.9	269.0	244.0	269.0	345.9
120°	915.5	905.0	812.1	701.4	685.6	546.0	416.9	340.1	315.0	340.1	416.9
122.5°	960.4	953.8	864.7	756.7	756.7	621.0	485.5	408.6	382.3	408.6	485.5
125°	1001.2	998.5	904.2	812.1	833.1	690.8	561.8	483.6	454.7	483.6	561.8
127.5°	1038.0	1042.0	955.5	872.6	910.8	762.0	636.9	550.8	520.6	550.8	636.9
130°	1069.6	1082.8	1004.2	928.0	984.6	839.6	704.0	618.0	598.2	618.0	704.0
132.5°	1131.5	1123.7	1055.1	984.6	1063.5	910.8	776.0	685.1	662.7	685.1	776.0
135°	1163.1	1165.8	1098.7	1033.3	1137.3	981.8	843.2	753.5	731.3	753.5	843.2
137.5°	1201.4	1193.4	1132.1	1092.5	1205.8	1050.3	908.1	826.0	790.5	826.0	908.1
140°	1229.0	1227.6	1177.6	1146.0	1279.5	1118.3	976.2	891.9	858.9	891.9	976.2
142.5°	1258.0	1265.8	1222.4	1203.1	1353.2	1188.7	1048.5	956.4	924.8	956.4	1048.5
145°	1277.7	1294.8	1267.2	1276.4	1423.1	1268.4	1111.7	1018.3	984.0	1018.3	1111.7
147.5°	1310.6	1333.0	1300.1	1327.8	1483.6	1338.3	1174.9	1082.8	1052.5	1082.8	1174.9
150°	1355.4	1365.9	1346.2	1398.9	1545.5	1415.9	1239.6	1144.7	1114.4	1144.7	1239.6
152.5°	1390.9	1404.1	1380.9	1475.7	1594.1	1486.3	1309.7	1205.3	1169.7	1205.3	1309.7
155°	1427.8	1433.1	1417.3	1550.7	1645.6	1556.0	1367.2	1272.4	1238.2	1272.4	1367.2
157.5°	1462.1	1472.5	1454.1	1607.4	1690.4	1616.6	1431.7	1339.6	1309.3	1339.6	1431.7
160°	1499.0	1499.0	1509.5	1674.0	1727.2	1670.0	1500.3	1413.3	1371.2	1413.3	1500.3
162.5°	1502.9	1527.1	1584.5	1720.2	1763.6	1716.2	1574.0	1465.2	1429.1	1465.2	1574.0
165°	1560.8	1582.3	1668.8	1761.0	1791.3	1757.0	1664.8	1552.1	1509.5	1552.1	1664.8
167.5°	1621.4	1667.9	1737.2	1807.1	1817.5	1795.3	1734.7	1656.1	1617.4	1656.1	1734.7
170°	1719.4	1760.2	1795.3	1824.1	1838.7	1825.5	1778.1	1739.1	1714.1	1739.1	1778.1
172.5°	1797.0	1823.3	1837.3	1855.7	1846.6	1841.3	1817.5	1798.3	1785.2	1798.3	1817.5
175°	1845.7	1851.0	1863.7	1857.2	1865.0	1850.5	1851.9	1860.2	1806.3	1860.2	1851.9
177.5°	1862.9	1872.1	1866.3	1854.5	1855.7	1853.1	1858.4	1862.9	1854.9	1862.9	1858.4
180°	1863.7	1863.7	1863.7	1863.7	1863.7	1863.7	1863.7	1863.7	1863.7	1863.7	1863.7



TEST NUMBER: P392616

CATALOG NUMBER: MWL-3-53-25-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	934.7	934.7	934.7	934.7	934.7	934.7
2.5°	933.5	935.6	934.7	932.6	933.3	929.0
5°	928.4	929.3	928.4	928.4	928.2	923.9
7.5°	919.5	921.7	920.8	918.6	920.3	916.9
10°	907.1	908.5	908.5	907.6	908.5	908.0
12.5°	893.6	892.3	893.6	891.9	893.3	895.5
15°	875.5	875.5	876.7	875.0	877.2	879.8
17.5°	856.8	856.8	856.8	855.6	856.9	859.5
20°	834.4	834.4	835.7	833.6	836.3	835.9
22.5°	809.9	810.7	811.2	810.0	810.9	809.3
25°	785.3	783.6	786.7	784.3	781.4	782.2
27.5°	758.8	758.3	760.0	756.3	753.4	748.4
30°	728.3	727.0	731.0	726.4	718.0	715.4
32.5°	697.1	697.1	699.7	691.8	682.5	677.4
35°	662.0	665.3	665.9	654.1	642.2	640.6
37.5°	626.5	629.5	630.4	616.1	602.5	600.9
40°	589.2	595.7	591.9	573.8	562.8	561.9
42.5°	548.7	557.6	551.3	529.4	522.2	528.1
45°	505.6	517.1	508.2	487.9	483.7	490.4
47.5°	460.0	474.9	461.3	447.4	448.2	456.6
50°	413.9	421.9	416.5	406.8	414.4	424.6
52.5°	369.9	365.3	372.5	370.0	382.3	392.4
55°	324.6	310.8	327.3	336.2	350.6	359.1
57.5°	281.5	264.3	284.1	303.2	321.0	327.7
60°	238.4	223.7	239.8	267.2	290.9	294.3
62.5°	200.4	190.3	201.7	233.4	258.8	264.7
65°	169.1	164.9	170.5	198.4	227.1	231.3
67.5°	139.6	139.6	139.6	169.6	193.3	201.7
70°	116.8	117.5	116.8	139.6	161.5	169.9
72.5°	94.3	97.7	95.6	114.2	132.8	145.5
75°	77.4	81.6	77.4	90.1	108.3	123.4
77.5°	60.5	65.6	60.5	70.6	92.4	115.4
80°	46.1	50.4	46.1	59.3	95.7	123.4
82.5°	33.5	35.1	33.5	65.0	113.6	139.0
85°	26.3	20.8	28.9	86.4	143.9	168.9
87.5°	25.2	5.9	43.6	118.7	185.8	205.2
90°	15.3	1.3	65.3	161.0	229.9	246.5
92.5°	10.2	21.9	101.1	204.6	279.3	296.8
95°	7.0	53.5	138.6	256.1	334.3	343.9
97.5°	16.6	94.3	185.2	308.3	387.7	396.0
100°	44.3	144.3	241.8	362.4	438.4	441.4
102.5°	82.5	198.4	295.8	413.0	493.1	511.4
105°	133.8	260.2	352.5	477.5	547.7	568.6
107.5°	193.1	326.0	410.4	535.5	608.8	621.9
110°	256.3	394.6	468.3	592.1	671.9	687.8



TEST NUMBER: P392616

CATALOG NUMBER: MWL-3-53-25-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	324.8	465.7	528.9	644.8	739.1	751.0
115°	402.5	531.6	585.5	705.4	793.2	799.7
117.5°	472.3	610.5	643.5	750.1	849.8	851.0
120°	546.0	685.6	701.4	812.1	905.0	915.5
122.5°	621.0	756.7	756.7	864.7	953.8	960.4
125°	690.8	833.1	812.1	904.2	998.5	1001.2
127.5°	762.0	910.8	872.6	955.5	1042.0	1038.0
130°	839.6	984.6	928.0	1004.2	1082.8	1069.6
132.5°	910.8	1063.5	984.6	1055.1	1123.7	1131.5
135°	981.8	1137.3	1033.3	1098.7	1165.8	1163.1
137.5°	1050.3	1205.8	1092.5	1132.1	1193.4	1201.4
140°	1118.3	1279.5	1146.0	1177.6	1227.6	1229.0
142.5°	1188.7	1353.2	1203.1	1222.4	1265.8	1258.0
145°	1268.4	1423.1	1276.4	1267.2	1294.8	1277.7
147.5°	1338.3	1483.6	1327.8	1300.1	1333.0	1310.6
150°	1415.9	1545.5	1398.9	1346.2	1365.9	1355.4
152.5°	1486.3	1594.1	1475.7	1380.9	1404.1	1390.9
155°	1556.0	1645.6	1550.7	1417.3	1433.1	1427.8
157.5°	1616.6	1690.4	1607.4	1454.1	1472.5	1462.1
160°	1670.0	1727.2	1674.0	1509.5	1499.0	1499.0
162.5°	1716.2	1763.6	1720.2	1584.5	1527.1	1502.9
165°	1757.0	1791.3	1761.0	1668.8	1582.3	1560.8
167.5°	1795.3	1817.5	1807.1	1737.2	1667.9	1621.4
170°	1825.5	1838.7	1824.1	1795.3	1760.2	1719.4
172.5°	1841.3	1846.6	1855.7	1837.3	1823.3	1797.0
175°	1850.5	1865.0	1857.2	1863.7	1851.0	1845.7
177.5°	1853.1	1855.7	1854.5	1866.3	1872.1	1862.9
180°	1863.7	1863.7	1863.7	1863.7	1863.7	1863.7

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