

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: P392700

Luminaire Tested: **MWL-4-66-25-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392700
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-4-66-25-UNV-L930-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

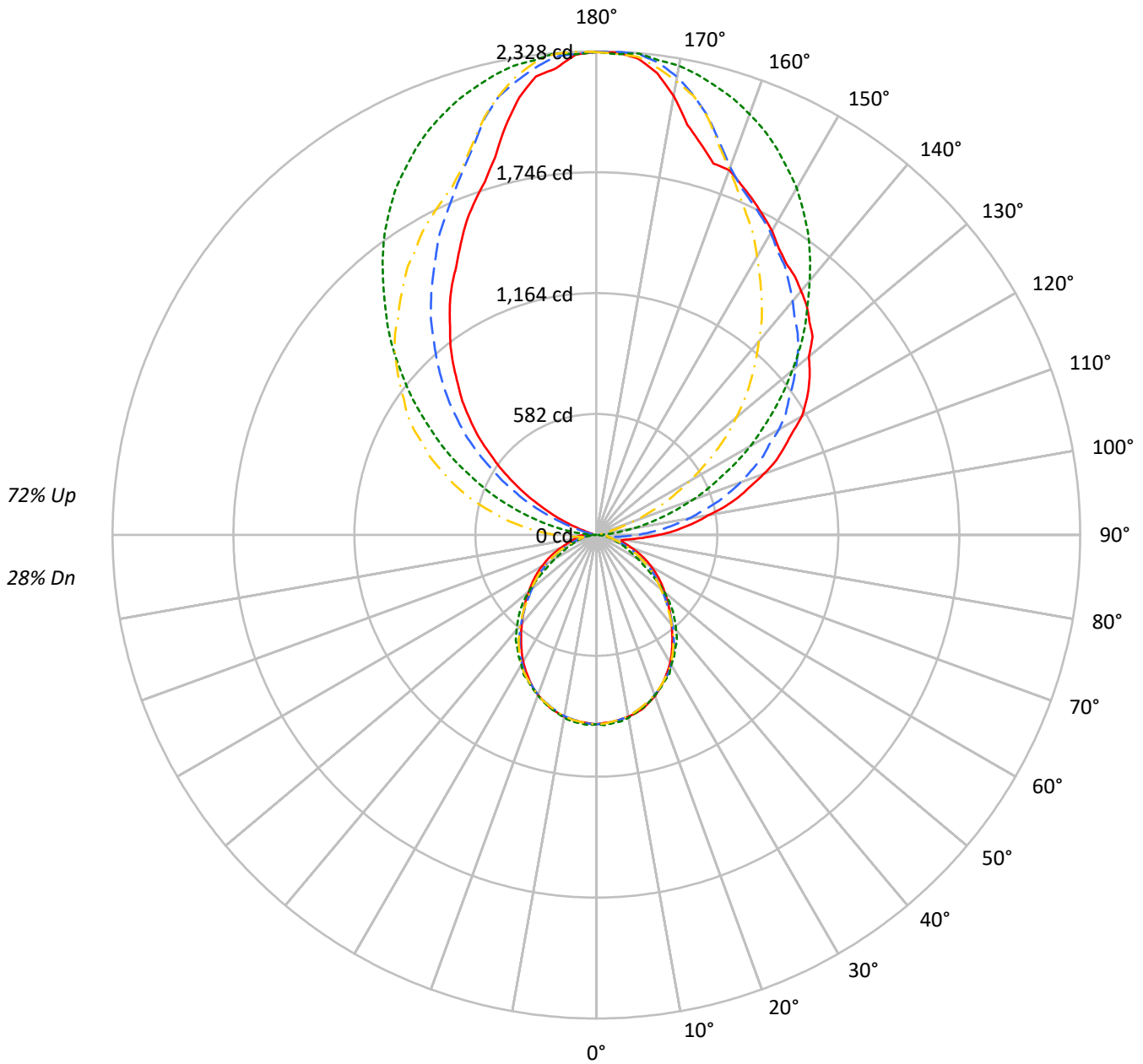
Lumens per Lamp: N/A
Luminaire Lumens: 7713.2 lumens
Efficiency: N/A
Efficacy: 70.6 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Indirect

Input Watts (W): 109.181
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: P392700
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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			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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	93	89	85	81	83	79	76	73	62	60	58	46	45	44	32	31	30	24
2	85	77	72	67	75	70	65	60	55	51	48	41	39	37	28	27	26	20
3	77	68	61	56	69	61	55	51	48	44	41	36	33	31	25	23	22	17
4	71	60	53	47	63	54	48	43	43	38	35	32	29	27	22	21	19	15
5	65	54	46	40	58	48	42	37	38	34	30	29	26	23	20	18	17	13
6	60	48	40	35	53	43	37	32	34	30	26	26	23	20	18	16	15	11
7	55	43	36	30	49	39	33	28	31	26	23	24	20	18	17	15	13	10
8	51	39	32	27	46	35	29	25	28	24	20	22	18	16	15	13	12	9
9	47	36	28	24	42	32	26	22	26	21	18	20	17	14	14	12	11	8
10	44	33	26	21	40	30	24	19	24	19	16	18	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	5887	5887	5887	5887
5°	5797	5424	5797	5424
10°	5718	4983	5718	4983
15°	5632	4549	5600	4549
20°	5465	4143	5433	4143
25°	5241	3774	5208	3774
30°	4997	3412	4952	3412
35°	4674	3076	4637	3076
40°	4367	2734	4317	2734
45°	4080	2377	4039	2377
50°	3828	1944	3783	1944
55°	3601	1461	3569	1461
60°	3336	1086	3318	1086
65°	3028	804	3028	804
70°	2629	604	2653	604
75°	2323	441	2410	441
80°	3152	287	2420	287
85°	6701	131	3088	131



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.9	1.1
10°-20°	242.3	3.1
20°-30°	356.1	4.6
30°-40°	405.1	5.3
40°-50°	381.5	4.9
50°-60°	306.2	4.0
60°-70°	203.9	2.6
70°-80°	108.4	1.4
80°-90°	88.6	1.1
90°-100°	176.0	2.3
100°-110°	358.8	4.7
110°-120°	617.0	8.0
120°-130°	838.6	10.9
130°-140°	956.6	12.4
140°-150°	954.4	12.4
150°-160°	831.2	10.8
160°-170°	584.8	7.6
170°-180°	217.8	2.8
0°-30°	684.3	8.9
0°-40°	1089.4	14.1
0°-60°	1777.1	23.0
0°-90°	2178.0	28.2
90°-120°	1151.8	14.9
90°-150°	3901.4	50.6
90°-180°	5535.0	71.8
0°-180°	7713.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	912	912	912	912	912	
5°	902	910	902	910	902	86
15°	866	863	861	863	866	243
25°	771	776	766	776	771	355
35°	636	663	631	663	636	398
45°	493	520	488	520	493	382
55°	367	315	364	315	367	329
65°	242	166	242	166	242	240
75°	129	84	134	84	129	148
85°	198	22	91	22	198	150
90°	300	2	54	2	300	166
95°	421	66	32	66	421	371
105°	711	324	19	324	711	746
115°	997	663	228	663	997	989
125°	1248	1040	567	1040	1248	1115
135°	1450	1419	912	1419	1450	1120
145°	1593	1776	1227	1776	1593	1005
155°	1780	2053	1544	2053	1780	821
165°	1946	2234	1882	2234	1946	552
175°	2302	2327	2253	2327	2302	215
180°	2324	2324	2324	2324	2324	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6	911.6
2.5°	905.9	907.4	908.9	919.9	916.6	918.3	908.9	907.4	907.4	907.4	908.9
5°	902.4	904.1	903.0	910.7	909.8	910.7	901.5	904.1	902.4	904.1	901.5
7.5°	895.6	897.2	896.3	903.0	905.6	901.5	894.8	895.6	895.6	895.6	894.8
10°	888.0	888.8	887.1	892.1	893.9	890.5	885.4	885.4	888.0	885.4	885.4
12.5°	878.6	879.4	871.1	876.2	876.2	876.2	871.1	876.2	875.3	876.2	871.1
15°	865.9	859.2	855.9	863.5	862.6	861.8	854.2	855.9	861.0	855.9	854.2
17.5°	844.8	844.0	839.8	843.3	843.3	843.3	838.1	842.4	839.8	842.4	838.1
20°	825.3	823.6	820.4	823.8	822.2	822.2	818.7	820.4	820.4	820.4	818.7
22.5°	799.1	801.6	797.6	800.1	801.1	798.5	795.9	798.4	795.9	798.4	795.9
25°	771.2	772.0	773.9	777.3	776.5	775.7	770.5	767.2	766.3	767.2	770.5
27.5°	740.8	744.2	751.0	757.0	757.9	755.3	747.7	739.3	735.9	739.3	747.7
30°	710.4	710.4	719.6	725.6	721.6	722.4	714.8	705.5	703.9	705.5	714.8
32.5°	674.9	674.9	687.5	698.6	695.3	695.3	682.7	668.4	668.4	668.4	682.7
35°	636.1	638.6	650.4	667.3	663.3	662.4	645.5	633.7	631.1	633.7	645.5
37.5°	599.7	598.0	611.6	631.0	637.0	626.1	606.7	593.1	594.9	593.1	606.7
40°	563.3	560.0	570.1	591.3	596.5	588.1	563.5	553.4	556.8	553.4	563.5
42.5°	528.7	522.8	527.2	550.0	558.4	546.6	522.1	516.2	522.1	516.2	522.1
45°	493.3	486.6	484.9	509.4	520.4	506.1	478.3	481.5	488.3	481.5	478.3
47.5°	462.9	453.6	446.9	461.2	476.4	459.6	440.2	448.6	457.9	448.6	440.2
50°	428.3	420.6	411.4	417.3	424.1	413.9	404.8	414.0	423.3	414.0	404.8
52.5°	399.5	390.2	375.9	376.7	369.2	373.4	371.0	383.6	394.6	383.6	371.0
55°	367.4	359.0	342.9	331.9	315.0	328.7	337.9	354.0	364.1	354.0	337.9
57.5°	337.0	331.1	309.9	288.9	267.8	285.5	305.0	326.1	333.7	326.1	305.0
60°	304.9	299.0	275.3	242.4	229.7	240.8	272.1	295.8	303.2	295.8	272.1
62.5°	274.5	270.3	242.4	205.2	192.7	203.6	239.1	267.0	272.8	267.0	239.1
65°	242.4	235.6	209.5	172.2	165.5	170.6	207.8	234.0	242.4	234.0	207.8
67.5°	210.3	203.5	177.3	144.4	143.6	144.4	175.7	201.9	210.3	201.9	175.7
70°	179.1	169.0	145.3	119.9	119.9	119.9	145.3	170.6	180.7	170.6	145.3
72.5°	152.1	139.4	119.0	99.7	101.3	97.9	119.0	141.0	155.3	141.0	119.0
75°	129.3	113.1	93.7	79.3	83.6	79.3	95.4	114.7	134.1	114.7	95.4
77.5°	122.9	99.5	73.4	62.4	67.5	62.4	75.1	94.5	116.4	94.5	75.1
80°	134.8	106.4	62.3	47.3	51.5	47.3	59.1	80.1	103.5	80.1	59.1
82.5°	160.7	129.8	71.9	33.7	36.3	33.7	52.2	70.7	98.3	70.7	52.2
85°	198.1	169.0	100.5	32.0	21.9	28.6	52.8	68.8	91.3	68.8	52.8
87.5°	245.3	222.2	141.3	50.6	6.8	27.6	47.6	64.5	76.3	64.5	47.6
90°	300.1	277.8	195.4	80.0	1.6	17.7	32.8	46.2	53.7	46.2	32.8
92.5°	363.9	341.7	251.1	125.1	27.1	11.7	26.1	37.9	42.0	37.9	26.1
95°	421.2	410.6	316.7	174.2	66.5	9.9	21.0	29.5	32.0	29.5	21.0
97.5°	487.6	480.2	383.9	230.8	117.5	20.5	20.9	28.5	27.7	28.5	20.9
100°	547.5	544.9	452.7	301.5	179.9	55.0	17.4	29.1	30.0	29.1	17.4
102.5°	636.0	614.6	515.8	368.8	247.2	102.7	26.3	23.2	24.9	23.2	26.3
105°	710.7	685.9	595.5	439.4	324.5	166.8	64.9	25.6	19.1	25.6	64.9
107.5°	777.0	759.0	667.8	511.7	406.5	240.7	120.8	62.4	41.1	62.4	120.8
110°	857.5	837.8	738.3	583.9	491.9	319.4	184.8	115.0	88.8	115.0	184.8



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CATALOG NUMBER: MWL-4-66-25-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	936.3	921.5	804.1	659.6	580.7	404.9	263.7	180.7	156.1	180.7	263.7
115°	997.1	988.9	880.5	730.1	662.8	501.9	351.6	258.0	228.4	258.0	351.6
117.5°	1061.2	1059.5	936.3	803.3	761.3	589.8	432.1	335.1	303.9	335.1	432.1
120°	1141.7	1128.5	1013.5	875.6	855.8	681.7	520.8	423.9	392.7	423.9	520.8
122.5°	1197.5	1189.3	1079.1	944.5	944.5	775.4	606.1	509.2	476.4	509.2	606.1
125°	1248.4	1245.1	1128.5	1013.5	1039.8	862.4	701.4	602.9	566.8	602.9	701.4
127.5°	1294.3	1299.4	1192.6	1089.1	1136.7	951.1	795.0	686.6	648.8	686.6	795.0
130°	1333.9	1350.2	1253.4	1158.0	1228.6	1048.0	878.8	770.4	745.8	770.4	878.8
132.5°	1411.0	1401.2	1315.7	1228.6	1327.3	1136.7	967.6	854.2	826.3	854.2	967.6
135°	1450.4	1453.8	1370.0	1289.5	1419.3	1225.4	1051.3	939.6	911.7	939.6	1051.3
137.5°	1498.1	1488.2	1412.7	1363.5	1504.6	1310.8	1133.5	1029.9	985.6	1029.9	1133.5
140°	1532.6	1530.9	1468.6	1429.1	1596.7	1394.6	1217.2	1112.1	1071.0	1112.1	1217.2
142.5°	1568.7	1579.4	1524.3	1501.3	1688.6	1483.4	1307.5	1193.4	1153.1	1193.4	1307.5
145°	1593.4	1614.7	1580.2	1591.7	1775.7	1581.9	1386.4	1269.8	1227.1	1269.8	1386.4
147.5°	1634.5	1662.4	1621.3	1655.8	1851.3	1668.9	1465.2	1350.2	1312.5	1350.2	1465.2
150°	1690.2	1703.4	1678.8	1744.5	1928.4	1765.8	1545.7	1427.5	1389.7	1427.5	1545.7
152.5°	1734.6	1751.0	1723.1	1841.4	1989.2	1854.5	1634.5	1503.0	1458.6	1503.0	1634.5
155°	1780.5	1787.2	1767.5	1935.0	2053.3	1941.6	1705.0	1586.7	1544.1	1586.7	1705.0
157.5°	1823.3	1836.5	1813.5	2005.7	2109.1	2017.1	1785.6	1670.6	1632.8	1670.6	1785.6
160°	1869.3	1869.3	1882.4	2087.8	2155.2	2082.8	1870.9	1762.6	1710.0	1762.6	1870.9
162.5°	1874.2	1905.4	1976.1	2145.3	2199.4	2140.4	1963.0	1828.3	1782.3	1828.3	1963.0
165°	1946.5	1974.4	2081.2	2196.1	2233.9	2191.2	2076.3	1936.7	1882.4	1936.7	2076.3
167.5°	2022.1	2081.2	2166.6	2253.7	2266.8	2238.9	2163.4	2066.4	2017.1	2066.4	2163.4
170°	2145.3	2196.1	2238.9	2275.0	2293.1	2276.7	2217.5	2169.9	2138.6	2169.9	2217.5
172.5°	2241.4	2275.0	2291.5	2314.5	2303.8	2296.3	2266.8	2243.8	2226.6	2243.8	2266.8
175°	2302.2	2309.5	2324.3	2316.1	2326.8	2307.9	2309.5	2321.0	2252.8	2321.0	2309.5
177.5°	2323.5	2335.8	2327.6	2312.8	2315.3	2311.1	2317.7	2324.3	2313.6	2324.3	2317.7
180°	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3



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CATALOG NUMBER: MWL-4-66-25-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	911.6	911.6	911.6	911.6	911.6	911.6
2.5°	918.3	916.6	919.9	908.9	907.4	905.9
5°	910.7	909.8	910.7	903.0	904.1	902.4
7.5°	901.5	905.6	903.0	896.3	897.2	895.6
10°	890.5	893.9	892.1	887.1	888.8	888.0
12.5°	876.2	876.2	876.2	871.1	879.4	878.6
15°	861.8	862.6	863.5	855.9	859.2	865.9
17.5°	843.3	843.3	843.3	839.8	844.0	844.8
20°	822.2	822.2	823.8	820.4	823.6	825.3
22.5°	798.5	801.1	800.1	797.6	801.6	799.1
25°	775.7	776.5	777.3	773.9	772.0	771.2
27.5°	755.3	757.9	757.0	751.0	744.2	740.8
30°	722.4	721.6	725.6	719.6	710.4	710.4
32.5°	695.3	695.3	698.6	687.5	674.9	674.9
35°	662.4	663.3	667.3	650.4	638.6	636.1
37.5°	626.1	637.0	631.0	611.6	598.0	599.7
40°	588.1	596.5	591.3	570.1	560.0	563.3
42.5°	546.6	558.4	550.0	527.2	522.8	528.7
45°	506.1	520.4	509.4	484.9	486.6	493.3
47.5°	459.6	476.4	461.2	446.9	453.6	462.9
50°	413.9	424.1	417.3	411.4	420.6	428.3
52.5°	373.4	369.2	376.7	375.9	390.2	399.5
55°	328.7	315.0	331.9	342.9	359.0	367.4
57.5°	285.5	267.8	288.9	309.9	331.1	337.0
60°	240.8	229.7	242.4	275.3	299.0	304.9
62.5°	203.6	192.7	205.2	242.4	270.3	274.5
65°	170.6	165.5	172.2	209.5	235.6	242.4
67.5°	144.4	143.6	144.4	177.3	203.5	210.3
70°	119.9	119.9	119.9	145.3	169.0	179.1
72.5°	97.9	101.3	99.7	119.0	139.4	152.1
75°	79.3	83.6	79.3	93.7	113.1	129.3
77.5°	62.4	67.5	62.4	73.4	99.5	122.9
80°	47.3	51.5	47.3	62.3	106.4	134.8
82.5°	33.7	36.3	33.7	71.9	129.8	160.7
85°	28.6	21.9	32.0	100.5	169.0	198.1
87.5°	27.6	6.8	50.6	141.3	222.2	245.3
90°	17.7	1.6	80.0	195.4	277.8	300.1
92.5°	11.7	27.1	125.1	251.1	341.7	363.9
95°	9.9	66.5	174.2	316.7	410.6	421.2
97.5°	20.5	117.5	230.8	383.9	480.2	487.6
100°	55.0	179.9	301.5	452.7	544.9	547.5
102.5°	102.7	247.2	368.8	515.8	614.6	636.0
105°	166.8	324.5	439.4	595.5	685.9	710.7
107.5°	240.7	406.5	511.7	667.8	759.0	777.0
110°	319.4	491.9	583.9	738.3	837.8	857.5



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CATALOG NUMBER: MWL-4-66-25-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	404.9	580.7	659.6	804.1	921.5	936.3
115°	501.9	662.8	730.1	880.5	988.9	997.1
117.5°	589.8	761.3	803.3	936.3	1059.5	1061.2
120°	681.7	855.8	875.6	1013.5	1128.5	1141.7
122.5°	775.4	944.5	944.5	1079.1	1189.3	1197.5
125°	862.4	1039.8	1013.5	1128.5	1245.1	1248.4
127.5°	951.1	1136.7	1089.1	1192.6	1299.4	1294.3
130°	1048.0	1228.6	1158.0	1253.4	1350.2	1333.9
132.5°	1136.7	1327.3	1228.6	1315.7	1401.2	1411.0
135°	1225.4	1419.3	1289.5	1370.0	1453.8	1450.4
137.5°	1310.8	1504.6	1363.5	1412.7	1488.2	1498.1
140°	1394.6	1596.7	1429.1	1468.6	1530.9	1532.6
142.5°	1483.4	1688.6	1501.3	1524.3	1579.4	1568.7
145°	1581.9	1775.7	1591.7	1580.2	1614.7	1593.4
147.5°	1668.9	1851.3	1655.8	1621.3	1662.4	1634.5
150°	1765.8	1928.4	1744.5	1678.8	1703.4	1690.2
152.5°	1854.5	1989.2	1841.4	1723.1	1751.0	1734.6
155°	1941.6	2053.3	1935.0	1767.5	1787.2	1780.5
157.5°	2017.1	2109.1	2005.7	1813.5	1836.5	1823.3
160°	2082.8	2155.2	2087.8	1882.4	1869.3	1869.3
162.5°	2140.4	2199.4	2145.3	1976.1	1905.4	1874.2
165°	2191.2	2233.9	2196.1	2081.2	1974.4	1946.5
167.5°	2238.9	2266.8	2253.7	2166.6	2081.2	2022.1
170°	2276.7	2293.1	2275.0	2238.9	2196.1	2145.3
172.5°	2296.3	2303.8	2314.5	2291.5	2275.0	2241.4
175°	2307.9	2326.8	2316.1	2324.3	2309.5	2302.2
177.5°	2311.1	2315.3	2312.8	2327.6	2335.8	2323.5
180°	2324.3	2324.3	2324.3	2324.3	2324.3	2324.3

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