

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: P392687

Luminaire Tested: **MWL-4-55-25-UNV-L940-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392687
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-4-55-25-UNV-L940-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

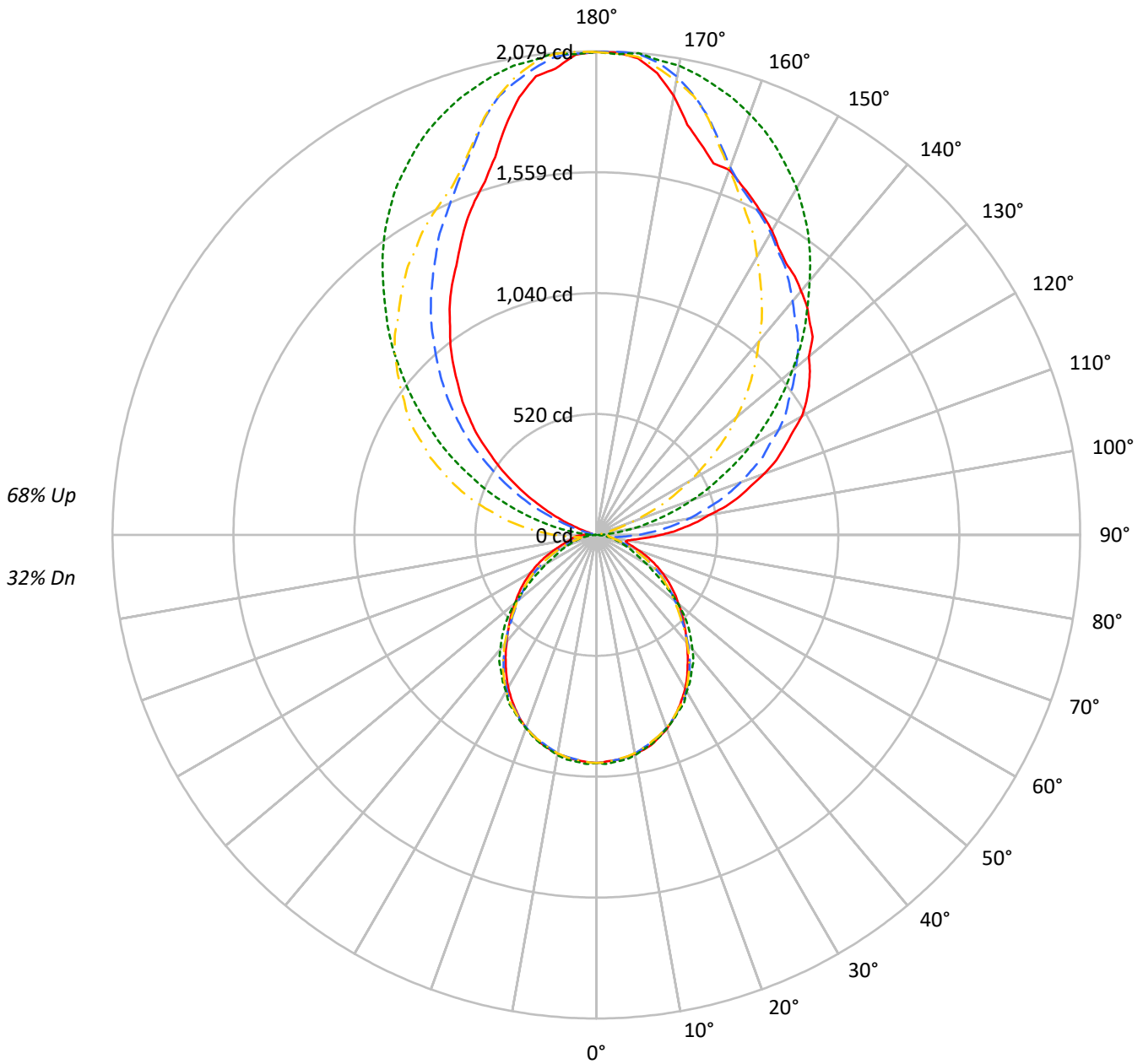
Lumens per Lamp: N/A
Luminaire Lumens: 7281.6 lumens
Efficiency: N/A
Efficacy: 82.1 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Indirect

Input Watts (W): 88.678
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: P392687
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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	73	73	73	56	56	56	40	40	40	32
1	94	89	86	82	84	81	77	75	64	62	60	49	47	46	35	34	33	27
2	85	78	72	67	77	71	66	61	56	53	50	43	41	39	31	30	28	23
3	78	69	62	56	70	62	56	51	50	46	42	38	35	33	28	26	24	20
4	71	61	53	48	64	55	49	44	44	40	36	34	31	28	25	23	21	17
5	65	54	47	41	59	49	43	37	40	35	31	31	27	25	22	20	18	15
6	60	49	41	35	54	44	37	32	36	31	27	28	24	22	20	18	16	13
7	56	44	36	31	50	40	33	28	32	27	24	25	22	19	19	16	15	12
8	52	40	32	27	46	36	30	25	29	25	21	23	20	17	17	15	13	10
9	48	36	29	24	43	33	27	22	27	22	19	21	18	15	16	13	12	9
10	45	33	26	22	40	30	24	20	25	20	17	20	16	14	15	12	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	6333	6333	6333	6333
5°	6242	5833	6242	5833
10°	6153	5360	6153	5360
15°	6054	4896	6025	4896
20°	5874	4459	5844	4459
25°	5634	4062	5604	4062
30°	5370	3672	5329	3672
35°	5023	3310	4990	3310
40°	4692	2941	4646	2941
45°	4384	2555	4347	2555
50°	4110	2090	4070	2090
55°	3868	1571	3838	1571
60°	3583	1166	3567	1166
65°	3253	864	3253	864
70°	2825	648	2847	648
75°	2492	474	2571	474
80°	3205	308	2553	308
85°	6380	139	3156	139



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.5	1.3
10°-20°	260.7	3.6
20°-30°	383.1	5.3
30°-40°	435.7	6.0
40°-50°	410.2	5.6
50°-60°	329.1	4.5
60°-70°	219.0	3.0
70°-80°	116.0	1.6
80°-90°	87.3	1.2
90°-100°	160.3	2.2
100°-110°	321.1	4.4
110°-120°	551.2	7.6
120°-130°	749.2	10.3
130°-140°	854.6	11.7
140°-150°	852.5	11.7
150°-160°	742.4	10.2
160°-170°	522.3	7.2
170°-180°	194.6	2.7
0°-30°	736.2	10.1
0°-40°	1171.8	16.1
0°-60°	1911.2	26.2
0°-90°	2333.4	32.0
90°-120°	1032.7	14.2
90°-150°	3489.0	47.9
90°-180°	4948.0	68.0
0°-180°	7281.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	981	981	981	981	981	
5°	972	978	972	978	972	92
15°	931	928	926	928	931	262
25°	829	836	825	836	829	381
35°	684	714	679	714	684	428
45°	530	560	526	560	530	410
55°	395	339	392	339	395	353
65°	260	178	260	178	260	257
75°	139	90	143	90	139	157
85°	189	23	93	23	189	144
90°	276	2	56	2	276	152
95°	381	60	34	60	381	335
105°	636	290	18	290	636	668
115°	891	592	204	592	891	884
125°	1115	929	506	929	1115	996
135°	1296	1268	814	1268	1296	1000
145°	1423	1586	1096	1586	1423	897
155°	1590	1834	1379	1834	1590	734
165°	1739	1995	1681	1995	1739	493
175°	2056	2078	2012	2078	2056	192
180°	2076	2076	2076	2076	2076	



TEST NUMBER: P392687

CATALOG NUMBER: MWL-4-55-25-UNV-L940-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6	980.6
2.5°	975.2	976.4	977.5	989.0	985.4	987.5	977.5	976.4	976.8	976.4	977.5
5°	971.6	972.8	971.1	979.3	978.4	979.3	969.7	972.8	971.6	972.8	969.7
7.5°	964.0	965.1	964.2	971.1	973.9	969.7	962.8	963.7	964.0	963.7	962.8
10°	955.5	956.0	954.2	959.7	961.5	958.2	952.7	953.1	955.5	953.1	952.7
12.5°	944.7	946.0	937.2	942.7	943.1	942.7	937.2	943.1	941.8	943.1	937.2
15°	930.7	924.1	920.8	929.0	928.5	927.6	919.4	921.2	926.3	921.2	919.4
17.5°	907.9	907.7	903.5	907.5	907.5	907.5	902.1	906.3	903.5	906.3	902.1
20°	887.0	885.5	882.6	886.6	885.0	885.0	881.1	882.6	882.6	882.6	881.1
22.5°	859.1	861.8	858.0	861.1	862.3	859.5	856.5	858.9	856.2	858.9	856.5
25°	829.0	829.9	832.1	836.5	835.8	834.9	829.2	825.5	824.6	825.5	829.2
27.5°	796.2	799.9	807.5	814.3	815.8	812.8	804.6	795.5	791.8	795.5	804.6
30°	763.4	763.4	773.4	780.2	776.6	777.3	769.1	759.0	757.5	759.0	769.1
32.5°	725.1	725.1	738.8	751.0	748.1	748.1	734.4	719.2	719.2	719.2	734.4
35°	683.6	686.3	699.1	717.3	713.8	712.8	694.6	681.9	679.1	681.9	694.6
37.5°	644.4	642.6	657.2	678.1	685.2	673.7	652.7	638.1	640.0	638.1	652.7
40°	605.2	601.6	612.5	635.7	641.5	632.7	606.6	595.7	599.3	595.7	606.6
42.5°	567.9	561.5	566.4	591.0	600.5	588.0	562.0	555.6	562.0	555.6	562.0
45°	530.0	522.7	520.9	547.3	559.5	544.3	515.0	518.2	525.5	518.2	515.0
47.5°	497.2	487.2	479.9	495.7	512.1	494.2	474.0	482.7	492.7	482.7	474.0
50°	459.8	451.6	441.6	448.4	455.9	445.3	435.7	445.7	455.4	445.7	435.7
52.5°	428.9	418.8	403.7	404.6	396.7	401.6	399.2	412.9	424.4	412.9	399.2
55°	394.6	385.5	368.2	356.6	338.7	353.7	363.7	381.0	391.6	381.0	363.7
57.5°	361.8	355.4	332.6	310.1	287.7	307.2	328.2	351.0	358.8	351.0	328.2
60°	327.4	321.1	295.6	260.4	246.7	258.9	292.6	318.2	326.0	318.2	292.6
62.5°	294.6	290.1	260.0	220.3	207.0	218.8	257.1	287.2	293.2	287.2	257.1
65°	260.4	253.1	224.9	184.8	177.8	183.3	223.4	251.6	260.4	251.6	223.4
67.5°	225.8	218.5	190.2	155.1	154.2	155.1	188.8	217.0	225.8	217.0	188.8
70°	192.4	181.5	156.0	128.6	128.6	128.6	156.0	182.9	193.9	182.9	156.0
72.5°	163.3	149.6	127.7	106.8	109.0	105.3	127.7	151.1	166.2	151.1	127.7
75°	138.7	121.4	100.8	85.3	89.8	85.3	102.2	122.8	143.1	122.8	102.2
77.5°	129.5	105.4	78.9	67.1	72.5	67.1	80.4	100.9	123.6	100.9	80.4
80°	137.1	108.6	66.0	50.7	55.2	50.7	63.0	85.1	109.2	85.1	63.0
82.5°	157.7	127.2	72.7	36.1	38.8	36.1	55.0	74.4	102.0	74.4	55.0
85°	188.6	160.3	96.8	33.2	23.3	30.2	54.2	70.8	93.3	70.8	54.2
87.5°	228.7	206.4	132.0	48.8	7.3	28.3	48.4	65.5	77.6	65.5	48.4
90°	275.9	254.8	179.3	74.2	1.5	18.4	34.1	48.0	55.9	48.0	34.1
92.5°	331.3	311.0	228.1	113.2	24.4	12.0	27.2	39.5	43.8	39.5	27.2
95°	381.2	371.5	285.7	156.2	59.6	9.5	21.7	31.2	33.5	31.2	21.7
97.5°	439.4	433.0	344.9	206.3	105.0	18.5	20.7	29.5	28.6	29.5	20.7
100°	492.1	489.6	405.3	269.3	160.8	49.3	16.7	29.1	30.0	29.1	16.7
102.5°	570.2	550.8	461.0	329.5	220.9	91.8	23.9	22.7	24.5	22.7	23.9
105°	636.0	613.7	532.0	392.6	289.9	149.1	58.1	24.0	18.5	24.0	58.1
107.5°	694.6	678.1	596.5	457.1	363.3	215.1	108.0	56.1	37.4	56.1	108.0
110°	766.1	748.5	659.5	521.7	439.5	285.5	165.2	103.0	79.5	103.0	165.2



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CATALOG NUMBER: MWL-4-55-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	836.5	823.4	718.2	589.1	518.8	361.8	235.6	161.7	139.7	161.7	235.6
115°	890.8	883.5	786.6	652.3	592.1	448.4	314.2	230.7	204.3	230.7	314.2
117.5°	948.0	946.5	836.5	717.7	680.1	527.0	386.1	299.6	271.8	299.6	386.1
120°	1019.9	1008.1	905.5	782.3	764.6	609.2	465.4	378.8	351.0	378.8	465.4
122.5°	1069.7	1062.4	964.1	843.9	843.9	692.8	541.6	455.1	425.8	455.1	541.6
125°	1115.3	1112.3	1008.1	905.5	929.0	770.5	626.7	538.7	506.5	538.7	626.7
127.5°	1156.3	1160.7	1065.3	973.0	1015.5	849.7	710.4	613.5	579.8	613.5	710.4
130°	1191.5	1206.2	1119.7	1034.6	1097.6	936.2	785.2	688.3	666.4	688.3	785.2
132.5°	1260.5	1251.7	1175.4	1097.6	1185.6	1015.5	864.4	763.1	738.3	763.1	864.4
135°	1295.6	1298.5	1223.8	1151.9	1267.7	1094.7	939.2	839.5	814.5	839.5	939.2
137.5°	1338.1	1329.3	1261.9	1218.0	1344.0	1170.9	1012.6	920.1	880.5	920.1	1012.6
140°	1368.9	1367.5	1311.7	1276.5	1426.1	1245.8	1087.4	993.5	956.8	993.5	1087.4
142.5°	1401.2	1410.9	1361.6	1341.0	1508.3	1324.9	1168.0	1066.3	1030.2	1066.3	1168.0
145°	1423.2	1442.3	1411.5	1421.8	1586.0	1412.9	1238.5	1134.3	1096.1	1134.3	1238.5
147.5°	1459.9	1484.8	1448.2	1479.0	1653.6	1490.7	1308.8	1206.2	1172.5	1206.2	1308.8
150°	1509.8	1521.5	1499.5	1558.2	1722.4	1577.2	1380.7	1275.1	1241.4	1275.1	1380.7
152.5°	1549.3	1564.0	1539.1	1644.7	1776.7	1656.5	1459.9	1342.5	1303.0	1342.5	1459.9
155°	1590.4	1596.3	1578.7	1728.4	1834.0	1734.2	1523.0	1417.3	1379.2	1417.3	1523.0
157.5°	1628.6	1640.3	1619.8	1791.4	1883.8	1801.7	1594.9	1492.2	1458.4	1492.2	1594.9
160°	1669.7	1669.7	1681.4	1864.7	1924.9	1860.4	1671.1	1574.3	1527.4	1574.3	1671.1
162.5°	1674.1	1701.9	1765.0	1916.1	1964.5	1911.7	1753.2	1633.0	1591.9	1633.0	1753.2
165°	1738.6	1763.5	1858.9	1961.6	1995.3	1957.2	1854.5	1729.8	1681.4	1729.8	1854.5
167.5°	1806.1	1858.9	1935.2	2012.9	2024.6	1999.7	1932.3	1845.7	1801.7	1845.7	1932.3
170°	1916.1	1961.6	1999.7	2032.0	2048.2	2033.5	1980.6	1938.1	1910.2	1938.1	1980.6
172.5°	2001.8	2032.0	2046.7	2067.2	2057.8	2051.1	2024.6	2004.1	1988.6	2004.1	2024.6
175°	2056.0	2062.8	2076.0	2068.7	2078.4	2061.4	2062.8	2073.0	2012.0	2073.0	2062.8
177.5°	2075.1	2086.2	2078.9	2065.7	2068.1	2064.3	2070.1	2076.0	2066.3	2076.0	2070.1
180°	2076.0	2076.0	2076.0	2076.0	2076.0	2076.0	2076.0	2076.0	2076.0	2076.0	2076.0



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CATALOG NUMBER: MWL-4-55-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	980.6	980.6	980.6	980.6	980.6	980.6
2.5°	987.5	985.4	989.0	977.5	976.4	975.2
5°	979.3	978.4	979.3	971.1	972.8	971.6
7.5°	969.7	973.9	971.1	964.2	965.1	964.0
10°	958.2	961.5	959.7	954.2	956.0	955.5
12.5°	942.7	943.1	942.7	937.2	946.0	944.7
15°	927.6	928.5	929.0	920.8	924.1	930.7
17.5°	907.5	907.5	907.5	903.5	907.7	907.9
20°	885.0	885.0	886.6	882.6	885.5	887.0
22.5°	859.5	862.3	861.1	858.0	861.8	859.1
25°	834.9	835.8	836.5	832.1	829.9	829.0
27.5°	812.8	815.8	814.3	807.5	799.9	796.2
30°	777.3	776.6	780.2	773.4	763.4	763.4
32.5°	748.1	748.1	751.0	738.8	725.1	725.1
35°	712.8	713.8	717.3	699.1	686.3	683.6
37.5°	673.7	685.2	678.1	657.2	642.6	644.4
40°	632.7	641.5	635.7	612.5	601.6	605.2
42.5°	588.0	600.5	591.0	566.4	561.5	567.9
45°	544.3	559.5	547.3	520.9	522.7	530.0
47.5°	494.2	512.1	495.7	479.9	487.2	497.2
50°	445.3	455.9	448.4	441.6	451.6	459.8
52.5°	401.6	396.7	404.6	403.7	418.8	428.9
55°	353.7	338.7	356.6	368.2	385.5	394.6
57.5°	307.2	287.7	310.1	332.6	355.4	361.8
60°	258.9	246.7	260.4	295.6	321.1	327.4
62.5°	218.8	207.0	220.3	260.0	290.1	294.6
65°	183.3	177.8	184.8	224.9	253.1	260.4
67.5°	155.1	154.2	155.1	190.2	218.5	225.8
70°	128.6	128.6	128.6	156.0	181.5	192.4
72.5°	105.3	109.0	106.8	127.7	149.6	163.3
75°	85.3	89.8	85.3	100.8	121.4	138.7
77.5°	67.1	72.5	67.1	78.9	105.4	129.5
80°	50.7	55.2	50.7	66.0	108.6	137.1
82.5°	36.1	38.8	36.1	72.7	127.2	157.7
85°	30.2	23.3	33.2	96.8	160.3	188.6
87.5°	28.3	7.3	48.8	132.0	206.4	228.7
90°	18.4	1.5	74.2	179.3	254.8	275.9
92.5°	12.0	24.4	113.2	228.1	311.0	331.3
95°	9.5	59.6	156.2	285.7	371.5	381.2
97.5°	18.5	105.0	206.3	344.9	433.0	439.4
100°	49.3	160.8	269.3	405.3	489.6	492.1
102.5°	91.8	220.9	329.5	461.0	550.8	570.2
105°	149.1	289.9	392.6	532.0	613.7	636.0
107.5°	215.1	363.3	457.1	596.5	678.1	694.6
110°	285.5	439.5	521.7	659.5	748.5	766.1



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CATALOG NUMBER: MWL-4-55-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	361.8	518.8	589.1	718.2	823.4	836.5
115°	448.4	592.1	652.3	786.6	883.5	890.8
117.5°	527.0	680.1	717.7	836.5	946.5	948.0
120°	609.2	764.6	782.3	905.5	1008.1	1019.9
122.5°	692.8	843.9	843.9	964.1	1062.4	1069.7
125°	770.5	929.0	905.5	1008.1	1112.3	1115.3
127.5°	849.7	1015.5	973.0	1065.3	1160.7	1156.3
130°	936.2	1097.6	1034.6	1119.7	1206.2	1191.5
132.5°	1015.5	1185.6	1097.6	1175.4	1251.7	1260.5
135°	1094.7	1267.7	1151.9	1223.8	1298.5	1295.6
137.5°	1170.9	1344.0	1218.0	1261.9	1329.3	1338.1
140°	1245.8	1426.1	1276.5	1311.7	1367.5	1368.9
142.5°	1324.9	1508.3	1341.0	1361.6	1410.9	1401.2
145°	1412.9	1586.0	1421.8	1411.5	1442.3	1423.2
147.5°	1490.7	1653.6	1479.0	1448.2	1484.8	1459.9
150°	1577.2	1722.4	1558.2	1499.5	1521.5	1509.8
152.5°	1656.5	1776.7	1644.7	1539.1	1564.0	1549.3
155°	1734.2	1834.0	1728.4	1578.7	1596.3	1590.4
157.5°	1801.7	1883.8	1791.4	1619.8	1640.3	1628.6
160°	1860.4	1924.9	1864.7	1681.4	1669.7	1669.7
162.5°	1911.7	1964.5	1916.1	1765.0	1701.9	1674.1
165°	1957.2	1995.3	1961.6	1858.9	1763.5	1738.6
167.5°	1999.7	2024.6	2012.9	1935.2	1858.9	1806.1
170°	2033.5	2048.2	2032.0	1999.7	1961.6	1916.1
172.5°	2051.1	2057.8	2067.2	2046.7	2032.0	2001.8
175°	2061.4	2078.4	2068.7	2076.0	2062.8	2056.0
177.5°	2064.3	2068.1	2065.7	2078.9	2086.2	2075.1
180°	2076.0	2076.0	2076.0	2076.0	2076.0	2076.0

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