

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: P392685

Luminaire Tested: **MWL-4-55-25-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392685
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-L930-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

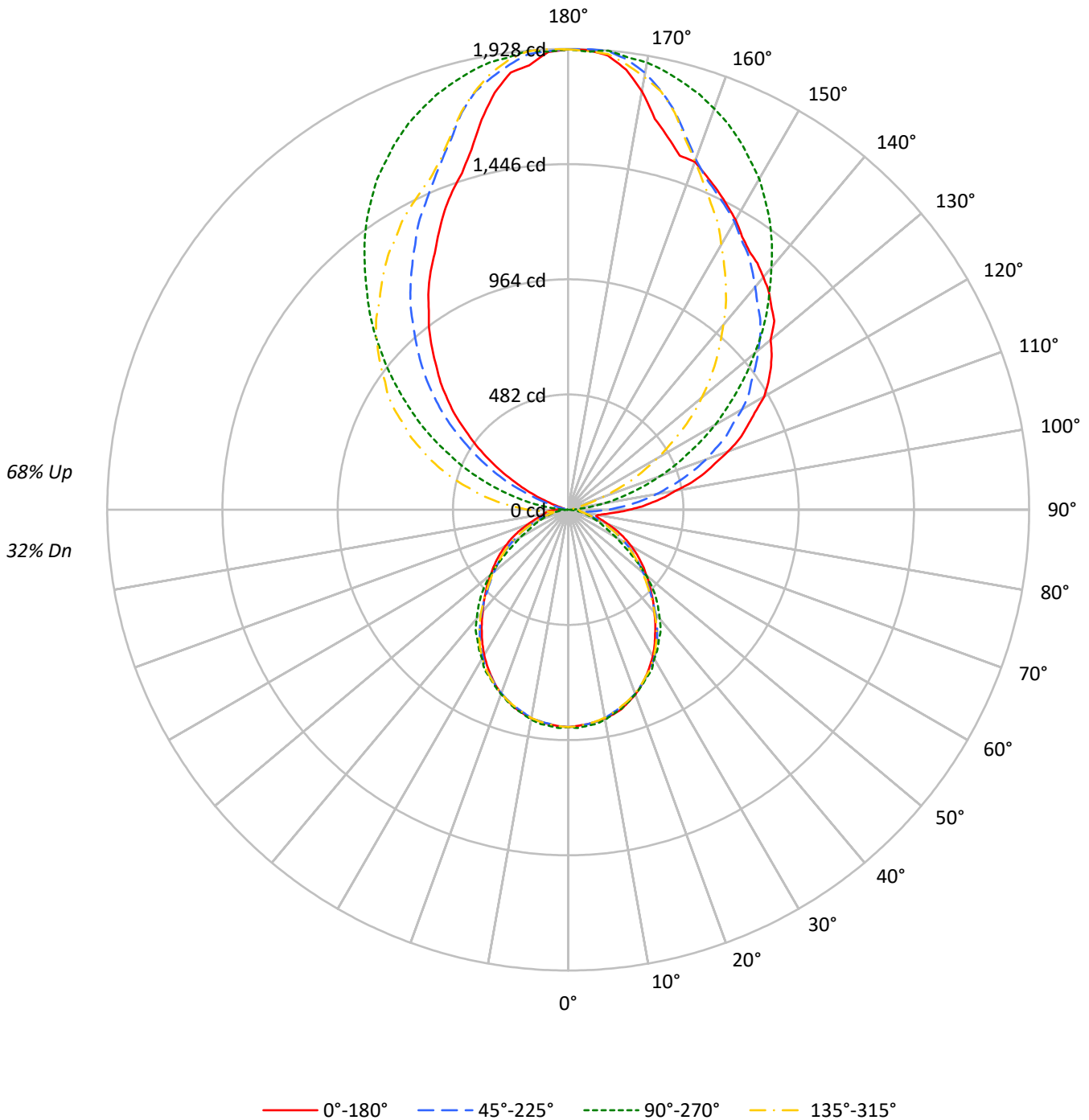
Lumens per Lamp: N/A
Luminaire Lumens: 6754.3 lumens
Efficiency: N/A
Efficacy: 76.2 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Indirect

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



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Luminous Intensity Polar Plot





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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°	5875	5875	5875	5875
5°	5790	5410	5790	5410
10°	5707	4972	5707	4972
15°	5615	4541	5589	4541
20°	5448	4136	5421	4136
25°	5225	3768	5198	3768
30°	4981	3405	4942	3405
35°	4659	3070	4629	3070
40°	4353	2728	4310	2728
45°	4066	2370	4032	2370
50°	3812	1939	3775	1939
55°	3587	1457	3560	1457
60°	3324	1082	3309	1082
65°	3017	802	3017	802
70°	2621	601	2640	601
75°	2311	439	2386	439
80°	2972	285	2368	285
85°	5920	129	2929	129



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.8	1.3
10°-20°	241.8	3.6
20°-30°	355.3	5.3
30°-40°	404.1	6.0
40°-50°	380.5	5.6
50°-60°	305.3	4.5
60°-70°	203.1	3.0
70°-80°	107.6	1.6
80°-90°	81.0	1.2
90°-100°	148.7	2.2
100°-110°	297.9	4.4
110°-120°	511.3	7.6
120°-130°	695.0	10.3
130°-140°	792.7	11.7
140°-150°	790.8	11.7
150°-160°	688.7	10.2
160°-170°	484.5	7.2
170°-180°	180.5	2.7
0°-30°	682.9	10.1
0°-40°	1087.0	16.1
0°-60°	1772.7	26.2
0°-90°	2164.4	32.0
90°-120°	957.9	14.2
90°-150°	3236.3	47.9
90°-180°	4590.0	68.0
0°-180°	6754.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	910	910	910	910	910	
5°	901	908	901	908	901	86
15°	863	861	859	861	863	243
25°	769	775	765	775	769	354
35°	634	662	630	662	634	397
45°	492	519	487	519	492	381
55°	366	314	363	314	366	327
65°	242	165	242	165	242	239
75°	129	83	133	83	129	146
85°	175	22	87	22	175	134
90°	256	1	52	1	256	141
95°	354	55	31	55	354	311
105°	590	269	17	269	590	620
115°	826	549	190	549	826	820
125°	1034	862	470	862	1034	924
135°	1202	1176	756	1176	1202	928
145°	1320	1471	1017	1471	1320	832
155°	1475	1701	1279	1701	1475	680
165°	1613	1851	1560	1851	1613	458
175°	1907	1928	1866	1928	1907	178
180°	1926	1926	1926	1926	1926	



TEST NUMBER: P392685

CATALOG NUMBER: MWL-4-55-25-UNV-L930-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	909.6	909.6	909.6	909.6	909.6	909.6	909.6	909.6	909.6	909.6	909.6
2.5°	904.6	905.7	906.7	917.4	914.0	916.0	906.7	905.7	906.0	905.7	906.7
5°	901.2	902.3	900.8	908.4	907.5	908.4	899.4	902.3	901.2	902.3	899.4
7.5°	894.2	895.2	894.4	900.8	903.3	899.4	893.0	893.9	894.2	893.9	893.0
10°	886.2	886.8	885.1	890.2	891.9	888.8	883.8	884.0	886.2	884.0	883.8
12.5°	876.3	877.5	869.3	874.4	874.8	874.4	869.3	874.8	873.5	874.8	869.3
15°	863.2	857.2	854.2	861.7	861.2	860.4	852.8	854.5	859.2	854.5	852.8
17.5°	842.1	841.9	838.1	841.8	841.8	841.8	836.7	840.6	838.1	840.6	836.7
20°	822.7	821.3	818.7	822.4	820.9	820.9	817.3	818.7	818.7	818.7	817.3
22.5°	796.9	799.4	795.8	798.7	799.8	797.3	794.5	796.7	794.1	796.7	794.5
25°	768.9	769.8	771.8	775.9	775.3	774.5	769.1	765.8	764.9	765.8	769.1
27.5°	738.6	741.9	749.0	755.3	756.7	753.9	746.3	737.9	734.5	737.9	746.3
30°	708.1	708.1	717.4	723.7	720.3	721.0	713.4	704.0	702.6	704.0	713.4
32.5°	672.6	672.6	685.3	696.7	693.9	693.9	681.2	667.2	667.2	667.2	681.2
35°	634.0	636.6	648.5	665.4	662.0	661.2	644.3	632.5	629.9	632.5	644.3
37.5°	597.8	596.0	609.6	629.0	635.6	624.9	605.4	591.9	593.6	591.9	605.4
40°	561.4	558.1	568.2	589.7	595.0	586.9	562.6	552.5	555.9	552.5	562.6
42.5°	526.7	520.8	525.4	548.2	557.0	545.5	521.3	515.4	521.3	515.4	521.3
45°	491.6	484.8	483.1	507.7	519.0	504.9	477.7	480.7	487.4	480.7	477.7
47.5°	461.2	451.9	445.1	459.8	475.0	458.4	439.6	447.7	457.1	447.7	439.6
50°	426.5	418.9	409.6	415.9	422.9	413.1	404.1	413.4	422.4	413.4	404.1
52.5°	397.8	388.5	374.5	375.3	368.0	372.5	370.3	383.0	393.7	383.0	370.3
55°	366.0	357.6	341.5	330.8	314.3	328.1	337.4	353.4	363.2	353.4	337.4
57.5°	335.6	329.7	308.5	287.7	266.9	284.9	304.4	325.5	332.8	325.5	304.4
60°	303.8	297.8	274.2	241.5	228.8	240.2	271.5	295.1	302.4	295.1	271.5
62.5°	273.3	269.1	241.2	204.4	192.0	203.0	238.5	266.4	272.0	266.4	238.5
65°	241.5	234.7	208.6	171.3	165.0	170.0	207.2	233.4	241.5	233.4	207.2
67.5°	209.4	202.7	176.5	143.9	143.0	143.9	175.1	201.3	209.4	201.3	175.1
70°	178.5	168.4	144.7	119.3	119.3	119.3	144.7	169.7	179.8	169.7	144.7
72.5°	151.4	138.8	118.5	99.1	101.1	97.7	118.5	140.1	154.2	140.1	118.5
75°	128.6	112.5	93.5	79.1	83.3	79.1	94.8	113.9	132.8	113.9	94.8
77.5°	120.1	97.7	73.2	62.2	67.3	62.2	74.6	93.6	114.6	93.6	74.6
80°	127.1	100.7	61.2	47.0	51.2	47.0	58.5	78.9	101.3	78.9	58.5
82.5°	146.3	118.0	67.4	33.5	36.0	33.5	51.1	69.0	94.6	69.0	51.1
85°	175.0	148.6	89.7	30.7	21.7	28.1	50.3	65.7	86.6	65.7	50.3
87.5°	212.1	191.4	122.5	45.3	6.8	26.2	44.9	60.8	72.0	60.8	44.9
90°	255.9	236.4	166.3	68.8	1.3	17.1	31.6	44.6	51.8	44.6	31.6
92.5°	307.3	288.5	211.6	105.0	22.6	11.2	25.2	36.7	40.7	36.7	25.2
95°	353.6	344.6	265.0	144.8	55.3	8.8	20.1	28.9	31.1	28.9	20.1
97.5°	407.6	401.6	319.9	191.3	97.5	17.2	19.2	27.4	26.5	27.4	19.2
100°	456.5	454.2	376.0	249.8	149.2	45.7	15.5	26.9	27.8	26.9	15.5
102.5°	528.8	510.9	427.7	305.7	205.0	85.1	22.1	21.0	22.7	21.0	22.1
105°	589.9	569.2	493.4	364.2	268.9	138.2	53.9	22.2	17.2	22.2	53.9
107.5°	644.3	629.0	553.3	424.0	337.0	199.5	100.1	52.0	34.7	52.0	100.1
110°	710.7	694.3	611.8	483.9	407.7	264.9	153.2	95.6	73.8	95.6	153.2



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CATALOG NUMBER: MWL-4-55-25-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	775.9	763.7	666.2	546.4	481.2	335.6	218.5	150.0	129.5	150.0	218.5
115°	826.3	819.5	729.7	605.0	549.3	415.9	291.4	214.0	189.5	214.0	291.4
117.5°	879.4	877.9	775.9	665.7	630.9	488.8	358.2	277.9	252.1	277.9	358.2
120°	946.0	935.1	839.8	725.6	709.2	565.0	431.7	351.4	325.5	351.4	431.7
122.5°	992.2	985.5	894.3	782.8	782.8	642.6	502.4	422.1	394.9	422.1	502.4
125°	1034.5	1031.7	935.1	839.8	861.7	714.7	581.3	499.7	469.8	499.7	581.3
127.5°	1072.5	1076.7	988.2	902.5	942.0	788.1	659.0	569.1	537.8	569.1	659.0
130°	1105.2	1118.9	1038.5	959.7	1018.1	868.4	728.3	638.5	618.1	638.5	728.3
132.5°	1169.2	1161.0	1090.2	1018.1	1099.7	942.0	801.8	707.8	684.8	707.8	801.8
135°	1201.8	1204.5	1135.1	1068.5	1176.0	1015.4	871.2	778.7	755.6	778.7	871.2
137.5°	1241.3	1233.1	1170.5	1129.8	1246.7	1086.1	939.2	853.5	816.8	853.5	939.2
140°	1269.9	1268.5	1216.8	1184.2	1323.0	1155.6	1008.6	921.5	887.5	921.5	1008.6
142.5°	1299.8	1308.8	1263.1	1244.0	1399.1	1229.0	1083.5	989.1	955.5	989.1	1083.5
145°	1320.2	1337.9	1309.3	1318.9	1471.2	1310.7	1148.8	1052.2	1016.7	1052.2	1148.8
147.5°	1354.2	1377.4	1343.4	1371.9	1533.8	1382.7	1214.0	1118.9	1087.6	1118.9	1214.0
150°	1400.5	1411.4	1390.9	1445.3	1597.8	1463.0	1280.8	1182.8	1151.4	1182.8	1280.8
152.5°	1437.2	1450.8	1427.7	1525.6	1648.1	1536.6	1354.2	1245.4	1208.7	1245.4	1354.2
155°	1475.3	1480.8	1464.4	1603.2	1701.2	1608.7	1412.8	1314.8	1279.4	1314.8	1412.8
157.5°	1510.7	1521.6	1502.5	1661.8	1747.4	1671.3	1479.4	1384.2	1352.8	1384.2	1479.4
160°	1548.8	1548.8	1559.7	1729.7	1785.6	1725.7	1550.2	1460.3	1416.8	1460.3	1550.2
162.5°	1552.8	1578.7	1637.2	1777.5	1822.3	1773.2	1626.3	1514.7	1476.7	1514.7	1626.3
165°	1612.7	1635.9	1724.4	1819.6	1850.9	1815.5	1720.2	1604.6	1559.7	1604.6	1720.2
167.5°	1675.3	1724.4	1795.1	1867.2	1878.1	1854.9	1792.3	1712.1	1671.3	1712.1	1792.3
170°	1777.5	1819.6	1854.9	1884.9	1899.9	1886.3	1837.3	1797.8	1771.9	1797.8	1837.3
172.5°	1856.9	1884.9	1898.5	1917.6	1908.8	1902.6	1878.1	1859.1	1844.6	1859.1	1878.1
175°	1907.2	1913.5	1925.7	1918.9	1927.9	1912.1	1913.5	1922.9	1866.3	1922.9	1913.5
177.5°	1924.9	1935.2	1928.5	1916.2	1918.3	1914.8	1920.3	1925.7	1916.7	1925.7	1920.3
180°	1925.7	1925.7	1925.7	1925.7	1925.7	1925.7	1925.7	1925.7	1925.7	1925.7	1925.7



TEST NUMBER: P392685

CATALOG NUMBER: MWL-4-55-25-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	909.6	909.6	909.6	909.6	909.6	909.6
2.5°	916.0	914.0	917.4	906.7	905.7	904.6
5°	908.4	907.5	908.4	900.8	902.3	901.2
7.5°	899.4	903.3	900.8	894.4	895.2	894.2
10°	888.8	891.9	890.2	885.1	886.8	886.2
12.5°	874.4	874.8	874.4	869.3	877.5	876.3
15°	860.4	861.2	861.7	854.2	857.2	863.2
17.5°	841.8	841.8	841.8	838.1	841.9	842.1
20°	820.9	820.9	822.4	818.7	821.3	822.7
22.5°	797.3	799.8	798.7	795.8	799.4	796.9
25°	774.5	775.3	775.9	771.8	769.8	768.9
27.5°	753.9	756.7	755.3	749.0	741.9	738.6
30°	721.0	720.3	723.7	717.4	708.1	708.1
32.5°	693.9	693.9	696.7	685.3	672.6	672.6
35°	661.2	662.0	665.4	648.5	636.6	634.0
37.5°	624.9	635.6	629.0	609.6	596.0	597.8
40°	586.9	595.0	589.7	568.2	558.1	561.4
42.5°	545.5	557.0	548.2	525.4	520.8	526.7
45°	504.9	519.0	507.7	483.1	484.8	491.6
47.5°	458.4	475.0	459.8	445.1	451.9	461.2
50°	413.1	422.9	415.9	409.6	418.9	426.5
52.5°	372.5	368.0	375.3	374.5	388.5	397.8
55°	328.1	314.3	330.8	341.5	357.6	366.0
57.5°	284.9	266.9	287.7	308.5	329.7	335.6
60°	240.2	228.8	241.5	274.2	297.8	303.8
62.5°	203.0	192.0	204.4	241.2	269.1	273.3
65°	170.0	165.0	171.3	208.6	234.7	241.5
67.5°	143.9	143.0	143.9	176.5	202.7	209.4
70°	119.3	119.3	119.3	144.7	168.4	178.5
72.5°	97.7	101.1	99.1	118.5	138.8	151.4
75°	79.1	83.3	79.1	93.5	112.5	128.6
77.5°	62.2	67.3	62.2	73.2	97.7	120.1
80°	47.0	51.2	47.0	61.2	100.7	127.1
82.5°	33.5	36.0	33.5	67.4	118.0	146.3
85°	28.1	21.7	30.7	89.7	148.6	175.0
87.5°	26.2	6.8	45.3	122.5	191.4	212.1
90°	17.1	1.3	68.8	166.3	236.4	255.9
92.5°	11.2	22.6	105.0	211.6	288.5	307.3
95°	8.8	55.3	144.8	265.0	344.6	353.6
97.5°	17.2	97.5	191.3	319.9	401.6	407.6
100°	45.7	149.2	249.8	376.0	454.2	456.5
102.5°	85.1	205.0	305.7	427.7	510.9	528.8
105°	138.2	268.9	364.2	493.4	569.2	589.9
107.5°	199.5	337.0	424.0	553.3	629.0	644.3
110°	264.9	407.7	483.9	611.8	694.3	710.7



TEST NUMBER: P392685

CATALOG NUMBER: MWL-4-55-25-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	335.6	481.2	546.4	666.2	763.7	775.9
115°	415.9	549.3	605.0	729.7	819.5	826.3
117.5°	488.8	630.9	665.7	775.9	877.9	879.4
120°	565.0	709.2	725.6	839.8	935.1	946.0
122.5°	642.6	782.8	782.8	894.3	985.5	992.2
125°	714.7	861.7	839.8	935.1	1031.7	1034.5
127.5°	788.1	942.0	902.5	988.2	1076.7	1072.5
130°	868.4	1018.1	959.7	1038.5	1118.9	1105.2
132.5°	942.0	1099.7	1018.1	1090.2	1161.0	1169.2
135°	1015.4	1176.0	1068.5	1135.1	1204.5	1201.8
137.5°	1086.1	1246.7	1129.8	1170.5	1233.1	1241.3
140°	1155.6	1323.0	1184.2	1216.8	1268.5	1269.9
142.5°	1229.0	1399.1	1244.0	1263.1	1308.8	1299.8
145°	1310.7	1471.2	1318.9	1309.3	1337.9	1320.2
147.5°	1382.7	1533.8	1371.9	1343.4	1377.4	1354.2
150°	1463.0	1597.8	1445.3	1390.9	1411.4	1400.5
152.5°	1536.6	1648.1	1525.6	1427.7	1450.8	1437.2
155°	1608.7	1701.2	1603.2	1464.4	1480.8	1475.3
157.5°	1671.3	1747.4	1661.8	1502.5	1521.6	1510.7
160°	1725.7	1785.6	1729.7	1559.7	1548.8	1548.8
162.5°	1773.2	1822.3	1777.5	1637.2	1578.7	1552.8
165°	1815.5	1850.9	1819.6	1724.4	1635.9	1612.7
167.5°	1854.9	1878.1	1867.2	1795.1	1724.4	1675.3
170°	1886.3	1899.9	1884.9	1854.9	1819.6	1777.5
172.5°	1902.6	1908.8	1917.6	1898.5	1884.9	1856.9
175°	1912.1	1927.9	1918.9	1925.7	1913.5	1907.2
177.5°	1914.8	1918.3	1916.2	1928.5	1935.2	1924.9
180°	1925.7	1925.7	1925.7	1925.7	1925.7	1925.7

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