

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: NEO-RAY

Report Number: P334791

Luminaire Tested: **S124IP-S590U830-4F0-1E-UDD-4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P334791
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124IP-S590U830-4F0-1E-UDD-4
Description: DEFINE 4 INDIRECT LED LUMINAIRE, BATWING OPTIC
PENDANT MOUNT, 590 LUMENS PER FOOT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

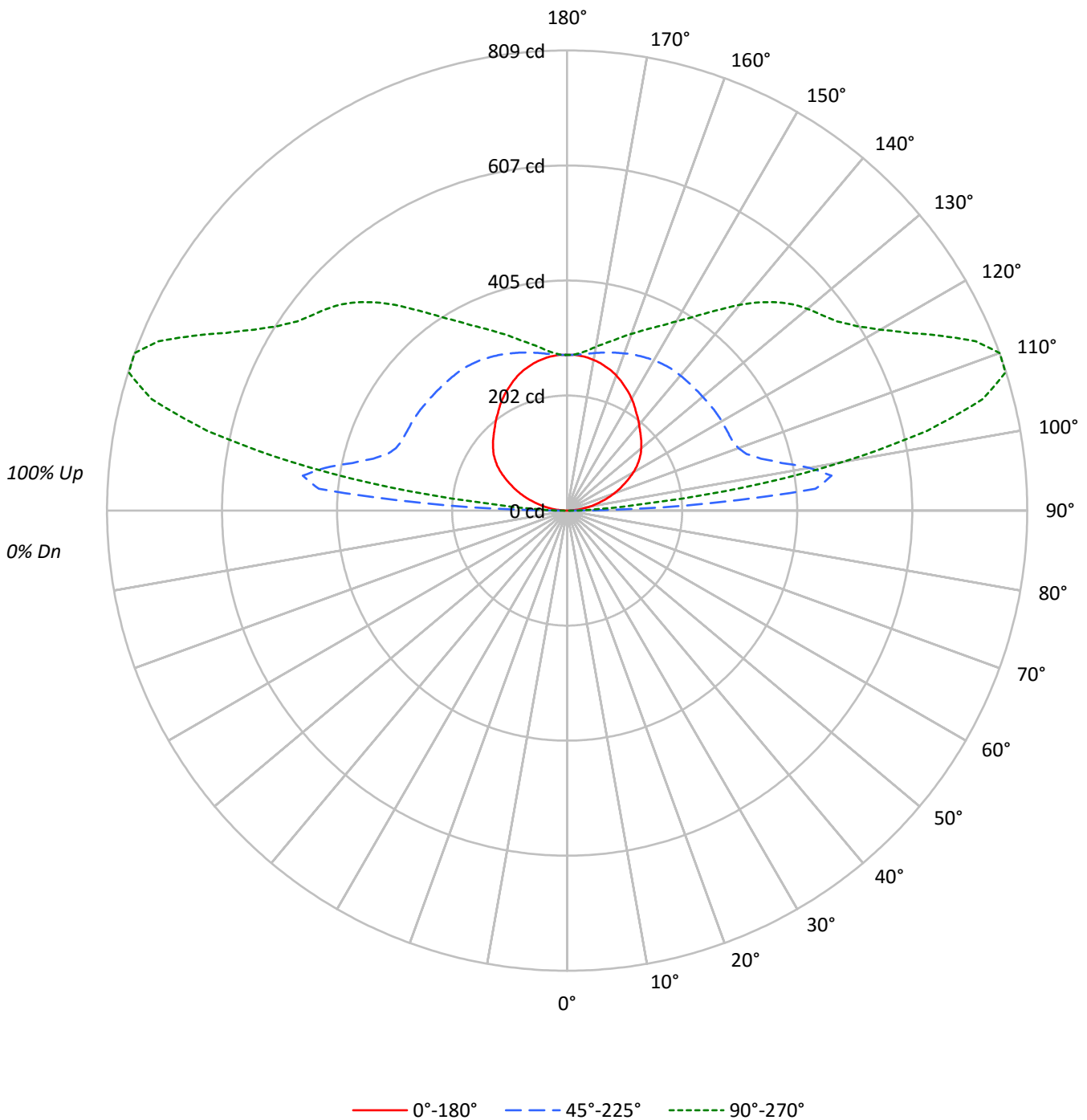
Lumens per Lamp: N/A
Luminaire Lumens: 1994.3 lumens
Efficiency: N/A
Efficacy: 106.1 lumens/watt
Spacing Criteria (0/90/45): - / - / -
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Indirect

Input Watts (W): 18.8
Input Voltage (V): 120
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	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	56	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	27	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	0	0	0
5°	0	0	0
10°	0	0	0
15°	0	0	0
20°	0	0	0
25°	0	0	0
30°	0	0	0
35°	0	0	0
40°	0	0	0
45°	0	0	0
50°	0	0	0
55°	0	0	0
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	0.0	0.0
10°-20°	0.0	0.0
20°-30°	0.0	0.0
30°-40°	0.0	0.0
40°-50°	0.0	0.0
50°-60°	0.0	0.0
60°-70°	0.0	0.0
70°-80°	0.0	0.0
80°-90°	1.1	0.1
90°-100°	198.4	9.9
100°-110°	414.1	20.8
110°-120°	368.1	18.5
120°-130°	309.9	15.5
130°-140°	258.5	13.0
140°-150°	197.4	9.9
150°-160°	138.8	7.0
160°-170°	81.6	4.1
170°-180°	26.5	1.3
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	1.1	0.1
90°-120°	980.6	49.2
90°-150°	1746.3	87.6
90°-180°	1993.0	99.9
0°-180°	1994.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	0	0	0	0	0	
5°	0	0	0	0	0	0
15°	0	0	0	0	0	0
25°	0	0	0	0	0	0
35°	0	0	0	0	0	0
45°	0	0	0	0	0	0
55°	0	0	0	0	0	0
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	4	10	11	11	1
95°	18	56	438	217	131	19
105°	63	91	353	759	756	67
115°	111	139	314	604	726	110
125°	154	183	313	514	580	138
135°	183	218	310	456	518	142
145°	211	242	309	385	423	133
155°	240	259	300	340	354	111
165°	262	270	288	305	309	74
175°	273	274	276	280	278	26
180°	274	274	274	274	274	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.5	1.6	3.2	3.8	4.3	4.3	7.5	7.5	8.6	9.7	9.1
92.5°	7.5	10.8	16.7	24.7	34.4	48.4	81.7	133.9	184.4	210.8	175.3
95°	17.7	19.4	24.7	31.7	44.6	67.2	114.0	202.2	330.7	438.2	450.6
97.5°	29.6	29.6	34.4	40.9	52.2	71.5	108.6	184.4	316.7	468.9	565.1
100°	40.9	40.9	44.6	51.1	61.3	78.5	110.2	171.0	280.7	432.3	569.9
102.5°	51.6	52.7	55.9	61.8	71.5	87.6	115.6	167.2	256.5	386.6	529.6
105°	62.9	64.5	67.2	73.7	83.3	98.9	124.7	169.4	244.6	352.7	479.1
107.5°	75.3	76.3	79.0	86.0	95.2	110.8	134.4	175.8	241.4	330.7	437.7
110°	87.6	88.7	91.4	97.9	107.5	122.1	145.7	183.3	242.5	320.5	408.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	99.5	100.5	103.8	109.7	119.4	133.9	156.5	191.4	245.7	315.6	391.4
115°	110.8	112.4	116.1	121.5	131.7	146.2	167.8	200.0	250.0	314.5	382.3
117.5°	122.6	124.2	127.4	133.3	143.0	158.1	178.5	208.6	254.3	314.0	377.4
120°	134.4	135.5	139.3	145.2	154.3	169.4	189.8	217.8	259.2	314.0	373.7
122.5°	145.2	146.2	150.0	155.4	165.6	180.1	200.6	226.4	264.0	313.5	369.4
125°	154.3	156.5	159.7	165.6	175.8	190.9	210.2	235.0	268.8	312.9	364.5
127.5°	162.9	164.5	168.3	174.7	185.5	200.6	219.4	242.5	272.6	311.9	358.1
130°	169.9	172.1	176.4	184.4	194.6	210.2	228.5	249.5	276.9	311.3	352.2
132.5°	176.9	178.5	184.4	191.9	203.2	217.8	236.0	256.5	280.7	310.8	346.8
135°	183.3	185.5	190.9	200.0	211.3	225.3	243.0	262.4	284.4	310.2	341.4
137.5°	189.8	191.9	197.9	206.5	218.3	231.7	248.4	266.7	286.6	310.2	336.6
140°	196.8	198.4	204.3	213.5	224.7	237.7	253.8	271.0	289.3	309.7	332.8
142.5°	204.3	205.9	211.3	219.9	230.7	243.0	258.6	274.2	291.4	309.7	329.6
145°	211.3	212.9	218.3	225.8	236.0	247.9	261.8	276.4	292.0	308.6	325.8
147.5°	219.4	219.9	224.7	232.8	241.4	252.2	265.6	278.5	292.5	307.0	322.6
150°	226.9	227.4	231.7	238.2	246.3	256.5	268.3	280.1	292.5	305.4	318.8
152.5°	233.9	233.9	238.2	244.1	251.1	260.2	270.4	281.2	291.4	302.7	314.5
155°	240.3	240.9	244.1	249.5	255.4	263.5	272.6	281.7	290.3	300.0	310.2
157.5°	246.8	246.8	250.0	254.3	259.7	266.1	274.2	281.7	289.3	297.3	305.9
160°	252.7	252.7	254.9	258.6	262.9	268.8	275.3	281.7	287.7	294.1	301.1
162.5°	258.1	257.5	259.2	262.4	266.1	270.4	276.4	281.7	286.0	290.9	296.8
165°	261.8	261.8	262.9	265.6	268.3	271.5	276.4	280.7	283.9	287.7	292.0
167.5°	266.1	265.6	266.1	268.3	269.9	272.6	276.4	279.6	281.7	284.4	287.7
170°	268.8	268.3	268.8	270.4	271.5	273.1	275.8	278.5	279.6	281.2	283.4
172.5°	271.5	271.0	271.0	272.1	272.6	273.7	275.3	277.4	277.4	278.0	279.6
175°	273.1	272.6	272.6	273.1	273.7	273.7	274.8	276.4	275.8	275.8	276.9
177.5°	274.2	273.7	273.1	273.7	273.7	273.7	274.2	275.3	274.2	274.2	274.8
180°	273.7	273.7	273.7	273.7	273.7	273.7	273.7	273.7	273.7	273.7	273.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	9.7	10.2	10.8	10.8	11.3	11.8	11.3	11.3
92.5°	129.6	96.8	76.3	62.9	54.8	51.1	48.9	48.9
95°	398.4	315.1	243.0	190.9	164.5	147.9	138.2	131.2
97.5°	573.7	532.3	473.2	412.9	376.4	344.1	328.0	315.1
100°	648.4	659.2	632.8	593.1	546.3	513.5	497.3	493.0
102.5°	644.7	708.7	724.8	714.0	689.8	668.3	651.1	647.9
105°	602.2	695.2	748.4	770.5	771.6	767.3	759.7	756.5
107.5°	550.0	650.6	724.8	769.9	793.6	803.3	807.6	808.1
110°	503.8	596.8	674.8	733.9	772.1	794.7	804.4	809.2



TEST NUMBER: P334791

CATALOG NUMBER: S124IP-S590U830-4F0-1E-UDD-4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	469.9	549.5	622.1	681.2	725.9	754.4	768.9	777.5
115°	449.5	515.6	578.5	630.2	672.6	704.9	722.1	726.4
117.5°	437.7	493.6	544.7	589.8	627.5	655.4	673.7	676.4
120°	430.1	480.1	523.2	561.3	592.0	615.6	629.6	635.5
122.5°	423.7	471.5	509.7	542.0	566.7	586.1	597.4	603.3
125°	416.2	462.4	499.5	529.1	550.6	566.2	576.4	579.6
127.5°	407.6	452.2	489.3	517.2	538.7	552.7	561.3	564.6
130°	396.8	439.3	475.8	504.3	526.4	539.8	548.4	551.7
132.5°	385.5	424.8	460.2	488.7	510.3	525.8	533.9	537.1
135°	375.3	410.2	443.0	469.9	491.4	506.5	515.1	518.3
137.5°	365.6	396.3	424.8	449.5	469.9	485.5	492.5	496.3
140°	357.6	382.8	407.0	429.6	448.4	460.2	467.8	472.1
142.5°	350.0	371.5	391.4	410.2	426.4	437.1	443.6	446.3
145°	343.0	361.3	377.4	392.5	405.9	415.1	420.5	423.1
147.5°	337.1	352.2	365.6	378.0	388.2	396.3	400.6	401.6
150°	331.7	344.1	354.9	364.5	373.1	380.1	383.4	383.9
152.5°	325.8	336.0	345.7	353.3	360.2	365.6	367.2	367.8
155°	319.9	328.5	336.6	343.0	348.4	352.7	354.3	354.3
157.5°	313.5	321.0	328.0	333.4	337.7	340.9	342.0	342.0
160°	307.5	313.5	319.4	323.7	326.9	330.1	330.7	330.7
162.5°	301.6	306.5	310.8	314.5	316.7	319.9	320.5	319.9
165°	296.3	299.5	303.2	305.9	308.1	310.2	309.7	309.2
167.5°	290.9	293.6	296.8	298.4	299.5	301.1	301.1	300.6
170°	286.0	287.7	289.8	291.4	292.5	293.0	292.5	292.5
172.5°	281.7	282.8	283.9	285.0	285.5	286.0	285.5	284.4
175°	278.0	278.5	279.6	279.6	279.6	280.7	279.6	278.5
177.5°	275.3	275.8	275.8	276.4	275.8	276.4	275.3	274.2
180°	273.7	273.7	273.7	273.7	273.7	273.7	273.7	273.7

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