

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: P334816

Luminaire Tested: **S124IP-S590U935-4F0-1E-UDD-4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P334816
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-S590U935-4F0-1E-UDD-4
Description: DEFINE 4 INDIRECT LED LUMINAIRE, BATWING OPTIC
PENDANT MOUNT, 590 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

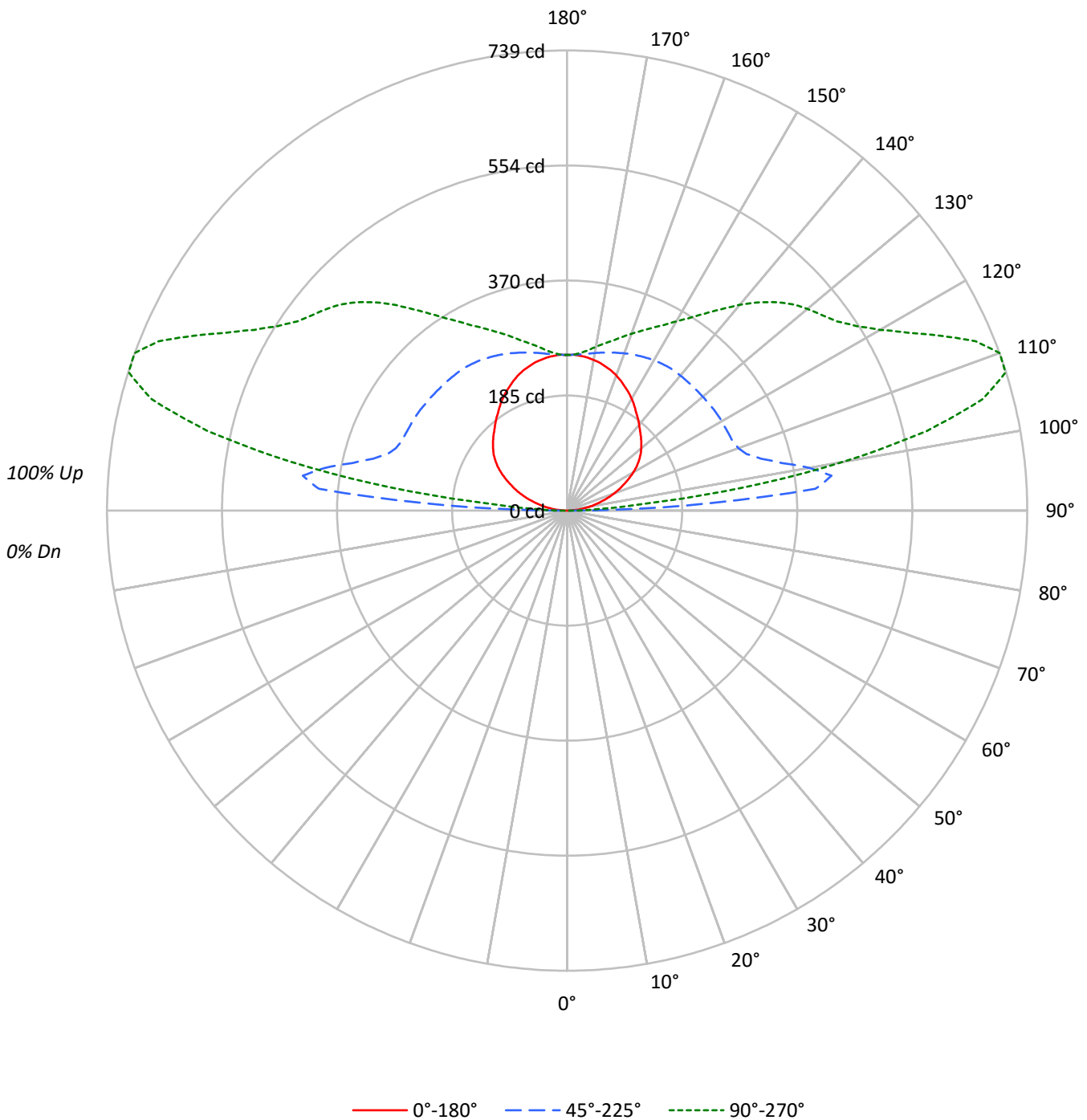
Lumens per Lamp: N/A
Luminaire Lumens: 1821.8 lumens
Efficiency: N/A
Efficacy: 96.9 lumens/watt
Spacing Criteria (0/90/45): - / - / -
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Indirect

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°	1.0	0.1
90°-100°	181.2	9.9
100°-110°	378.3	20.8
110°-120°	336.3	18.5
120°-130°	283.1	15.5
130°-140°	236.2	13.0
140°-150°	180.3	9.9
150°-160°	126.8	7.0
160°-170°	74.6	4.1
170°-180°	24.2	1.3
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	1.0	0.1
90°-120°	895.7	49.2
90°-150°	1595.2	87.6
90°-180°	1821.0	100.0
0°-180°	1821.8	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	9	10	10	1
95°	16	51	400	198	120	18
105°	58	83	322	694	691	61
115°	101	127	287	552	664	100
125°	141	168	286	470	530	126
135°	168	199	283	417	474	129
145°	193	221	282	352	386	121
155°	220	237	274	310	324	101
165°	239	247	263	278	282	68
175°	250	250	252	255	254	24
180°	250	250	250	250	250	



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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	1.5	2.9	3.4	3.9	3.9	6.9	6.9	7.9	8.8	8.3
92.5°	6.9	9.8	15.2	22.6	31.4	44.2	74.7	122.3	168.5	192.5	160.1
95°	16.2	17.7	22.6	29.0	40.8	61.4	104.1	184.7	302.1	400.3	411.6
97.5°	27.0	27.0	31.4	37.3	47.6	65.3	99.2	168.5	289.3	428.3	516.2
100°	37.3	37.3	40.8	46.7	56.0	71.7	100.7	156.2	256.4	394.9	520.6
102.5°	47.2	48.1	51.1	56.5	65.3	80.1	105.6	152.7	234.3	353.1	483.8
105°	57.5	58.9	61.4	67.3	76.1	90.4	113.9	154.7	223.5	322.2	437.6
107.5°	68.8	69.7	72.2	78.6	86.9	101.2	122.8	160.6	220.5	302.1	399.8
110°	80.1	81.0	83.5	89.4	98.2	111.5	133.1	167.5	221.5	292.7	372.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	90.9	91.8	94.8	100.2	109.0	122.3	142.9	174.9	224.5	288.3	357.6
115°	101.2	102.7	106.1	111.0	120.3	133.6	153.2	182.7	228.4	287.3	349.2
117.5°	112.0	113.5	116.4	121.8	130.6	144.4	163.1	190.6	232.3	286.8	344.8
120°	122.8	123.8	127.2	132.6	141.0	154.7	173.4	198.9	236.7	286.8	341.4
122.5°	132.6	133.6	137.0	141.9	151.3	164.5	183.2	206.8	241.2	286.3	337.4
125°	141.0	142.9	145.9	151.3	160.6	174.4	192.0	214.6	245.6	285.9	333.0
127.5°	148.8	150.3	153.7	159.6	169.4	183.2	200.4	221.5	249.0	284.9	327.1
130°	155.2	157.2	161.1	168.5	177.8	192.0	208.7	227.9	252.9	284.4	321.7
132.5°	161.6	163.1	168.5	175.3	185.7	198.9	215.6	234.3	256.4	283.9	316.8
135°	167.5	169.4	174.4	182.7	193.0	205.8	222.0	239.7	259.8	283.4	311.9
137.5°	173.4	175.3	180.7	188.6	199.4	211.7	226.9	243.6	261.8	283.4	307.5
140°	179.8	181.2	186.6	195.0	205.3	217.1	231.8	247.5	264.2	282.9	304.0
142.5°	186.6	188.1	193.0	200.9	210.7	222.0	236.2	250.5	266.2	282.9	301.1
145°	193.0	194.5	199.4	206.3	215.6	226.4	239.2	252.5	266.7	281.9	297.6
147.5°	200.4	200.9	205.3	212.7	220.5	230.4	242.6	254.4	267.2	280.5	294.7
150°	207.3	207.8	211.7	217.6	224.9	234.3	245.1	255.9	267.2	279.0	291.3
152.5°	213.7	213.7	217.6	223.0	229.4	237.7	247.1	256.9	266.2	276.5	287.3
155°	219.5	220.0	223.0	227.9	233.3	240.7	249.0	257.4	265.2	274.1	283.4
157.5°	225.4	225.4	228.4	232.3	237.2	243.1	250.5	257.4	264.2	271.6	279.5
160°	230.8	230.8	232.8	236.2	240.2	245.6	251.5	257.4	262.8	268.7	275.0
162.5°	235.8	235.3	236.7	239.7	243.1	247.1	252.5	257.4	261.3	265.7	271.1
165°	239.2	239.2	240.2	242.6	245.1	248.0	252.5	256.4	259.3	262.8	266.7
167.5°	243.1	242.6	243.1	245.1	246.6	249.0	252.5	255.4	257.4	259.8	262.8
170°	245.6	245.1	245.6	247.1	248.0	249.5	252.0	254.4	255.4	256.9	258.8
172.5°	248.0	247.5	247.5	248.5	249.0	250.0	251.5	253.4	253.4	253.9	255.4
175°	249.5	249.0	249.0	249.5	250.0	250.0	251.0	252.5	252.0	252.0	252.9
177.5°	250.5	250.0	249.5	250.0	250.0	250.0	250.5	251.5	250.5	250.5	251.0
180°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0



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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°	8.8	9.3	9.8	9.8	10.3	10.8	10.3	10.3
92.5°	118.4	88.4	69.7	57.5	50.1	46.7	44.7	44.7
95°	363.9	287.8	222.0	174.4	150.3	135.1	126.2	119.8
97.5°	524.1	486.2	432.2	377.2	343.8	314.3	299.6	287.8
100°	592.3	602.2	578.1	541.7	499.0	469.1	454.3	450.4
102.5°	588.9	647.3	662.1	652.3	630.2	610.5	594.8	591.8
105°	550.1	635.1	683.7	703.8	704.8	700.9	694.0	691.1
107.5°	502.5	594.3	662.1	703.3	724.9	733.8	737.7	738.2
110°	460.2	545.2	616.4	670.4	705.3	725.9	734.8	739.2



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CATALOG NUMBER: S124IP-S590U935-4F0-1E-UDD-4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	429.3	502.0	568.3	622.3	663.1	689.1	702.4	710.2
115°	410.6	471.0	528.5	575.6	614.4	643.9	659.6	663.6
117.5°	399.8	450.9	497.5	538.8	573.2	598.7	615.4	617.9
120°	392.9	438.6	477.9	512.8	540.8	562.4	575.1	580.5
122.5°	387.0	430.7	465.6	495.1	517.7	535.4	545.7	551.1
125°	380.2	422.4	456.3	483.3	502.9	517.2	526.5	529.5
127.5°	372.3	413.1	447.0	472.5	492.1	504.9	512.8	515.7
130°	362.5	401.3	434.7	460.7	480.8	493.1	501.0	503.9
132.5°	352.2	388.0	420.4	446.5	466.1	480.4	487.7	490.7
135°	342.8	374.8	404.7	429.3	448.9	462.7	470.5	473.5
137.5°	334.0	362.0	388.0	410.6	429.3	443.5	449.9	453.3
140°	326.6	349.7	371.8	392.4	409.6	420.4	427.3	431.2
142.5°	319.7	339.4	357.6	374.8	389.5	399.3	405.2	407.7
145°	313.4	330.1	344.8	358.5	370.8	379.2	384.1	386.5
147.5°	308.0	321.7	334.0	345.3	354.6	362.0	365.9	366.9
150°	303.0	314.3	324.2	333.0	340.9	347.2	350.2	350.7
152.5°	297.6	307.0	315.8	322.7	329.1	334.0	335.5	336.0
155°	292.2	300.1	307.5	313.4	318.3	322.2	323.7	323.7
157.5°	286.3	293.2	299.6	304.5	308.4	311.4	312.4	312.4
160°	280.9	286.3	291.7	295.7	298.6	301.6	302.1	302.1
162.5°	275.5	280.0	283.9	287.3	289.3	292.2	292.7	292.2
165°	270.6	273.6	277.0	279.5	281.4	283.4	282.9	282.4
167.5°	265.7	268.2	271.1	272.6	273.6	275.0	275.0	274.6
170°	261.3	262.8	264.7	266.2	267.2	267.7	267.2	267.2
172.5°	257.4	258.3	259.3	260.3	260.8	261.3	260.8	259.8
175°	253.9	254.4	255.4	255.4	255.4	256.4	255.4	254.4
177.5°	251.5	252.0	252.0	252.5	252.0	252.5	251.5	250.5
180°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0

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