

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: P334822

Luminaire Tested: **S124IP-S810U940-4F0-1E-UDD-4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P334822  
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-S810U940-4F0-1E-UDD-4  
Description: DEFINE 4 INDIRECT LED LUMINAIRE, BATWING OPTIC  
PENDANT MOUNT, 810 LUMENS PER FOOT  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

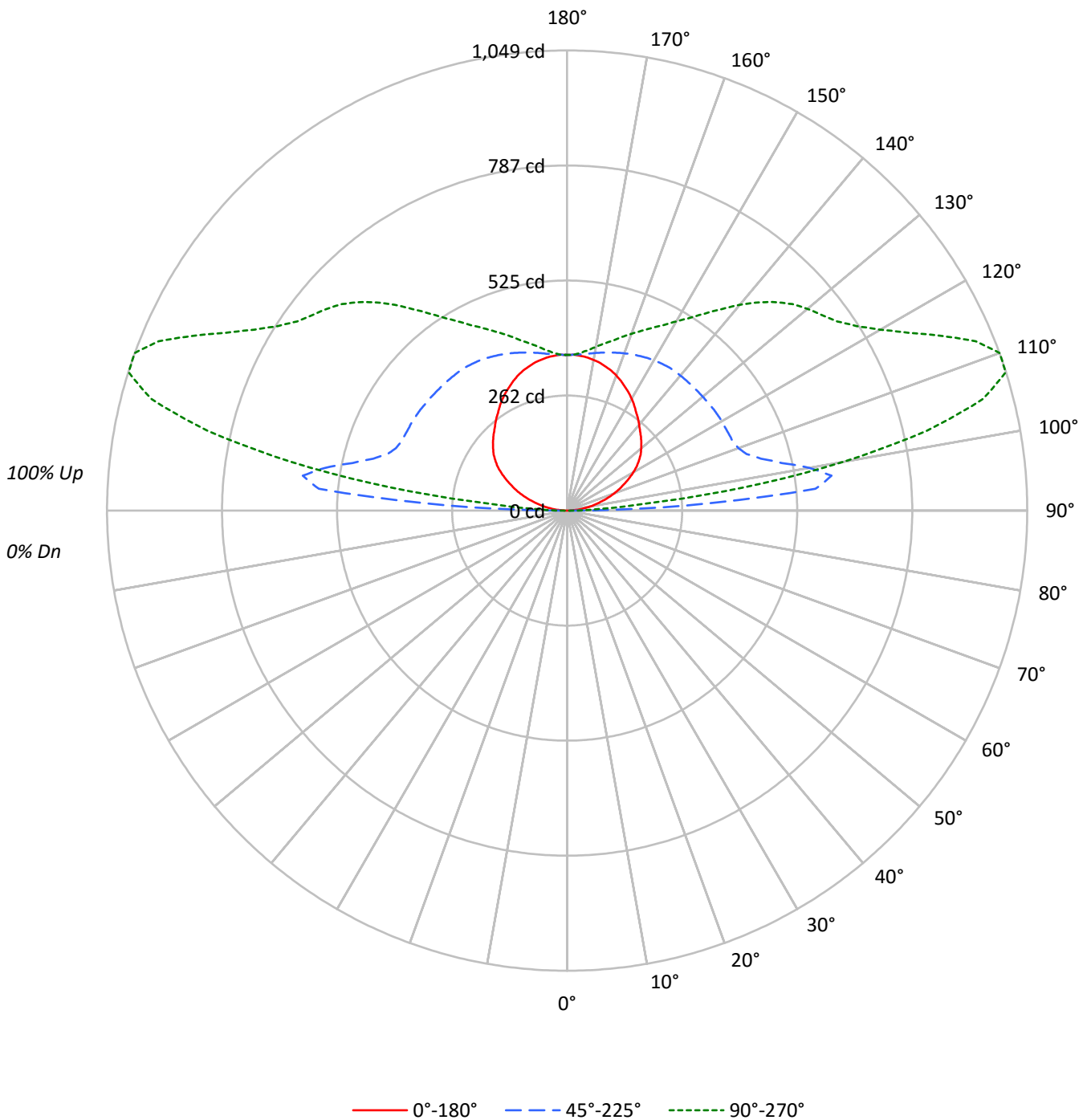
Lumens per Lamp: N/A  
Luminaire Lumens: 2586.2 lumens  
Efficiency: N/A  
Efficacy: 98.0 lumens/watt  
Spacing Criteria (0/90/45): - / - / -  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Indirect

Input Watts (W): 26.4  
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°	1.4	0.1
90°-100°	257.2	9.9
100°-110°	537.0	20.8
110°-120°	477.4	18.5
120°-130°	401.8	15.5
130°-140°	335.3	13.0
140°-150°	256.0	9.9
150°-160°	180.0	7.0
160°-170°	105.8	4.1
170°-180°	34.4	1.3
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	1.4	0.1
90°-120°	1271.6	49.2
90°-150°	2264.6	87.6
90°-180°	2585.0	100.0
0°-180°	2586.2	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°	1	6	13	14	15	2
95°	23	73	568	281	170	25
105°	82	118	457	985	981	87
115°	144	180	408	784	942	142
125°	200	238	406	667	752	178
135°	238	283	402	592	672	184
145°	274	314	400	499	549	172
155°	312	336	389	441	460	144
165°	340	350	373	395	401	96
175°	354	355	358	363	361	34
180°	355	355	355	355	355	



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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°	0.7	2.1	4.2	4.9	5.6	5.6	9.8	9.8	11.2	12.6	11.9
92.5°	9.8	13.9	21.6	32.1	44.6	62.8	106.0	173.6	239.2	273.3	227.3
95°	23.0	25.1	32.1	41.1	57.9	87.2	147.8	262.2	428.8	568.3	584.3
97.5°	38.3	38.3	44.6	53.0	67.6	92.7	140.8	239.2	410.7	608.0	732.8
100°	53.0	53.0	57.9	66.2	79.5	101.8	142.9	221.7	364.0	560.6	739.1
102.5°	66.9	68.3	72.5	80.2	92.7	113.7	149.9	216.8	332.6	501.3	686.8
105°	81.6	83.7	87.2	95.5	108.1	128.3	161.8	219.6	317.2	457.4	621.2
107.5°	97.6	99.0	102.5	111.6	123.4	143.6	174.3	228.0	313.1	428.8	567.6
110°	113.7	115.0	118.5	126.9	139.4	158.3	189.0	237.8	314.5	415.6	529.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	129.0	130.4	134.6	142.2	154.8	173.6	202.9	248.2	318.6	409.3	507.6
115°	143.6	145.7	150.6	157.6	170.8	189.7	217.5	259.4	324.2	407.9	495.7
117.5°	159.0	161.1	165.2	172.9	185.5	205.0	231.5	270.5	329.8	407.2	489.5
120°	174.3	175.7	180.6	188.3	200.1	219.6	246.1	282.4	336.1	407.2	484.6
122.5°	188.3	189.7	194.5	201.5	214.8	233.6	260.1	293.5	342.3	406.5	479.0
125°	200.1	202.9	207.1	214.8	228.0	247.5	272.6	304.7	348.6	405.8	472.7
127.5°	211.3	213.4	218.2	226.6	240.6	260.1	284.5	314.5	353.5	404.4	464.4
130°	220.3	223.1	228.7	239.2	252.4	272.6	296.3	323.5	359.1	403.7	456.7
132.5°	229.4	231.5	239.2	248.9	263.6	282.4	306.1	332.6	364.0	403.0	449.7
135°	237.8	240.6	247.5	259.4	274.0	292.1	315.2	340.3	368.8	402.3	442.8
137.5°	246.1	248.9	256.6	267.7	283.1	300.5	322.1	345.8	371.6	402.3	436.5
140°	255.2	257.3	265.0	276.8	291.4	308.2	329.1	351.4	375.1	401.6	431.6
142.5°	265.0	267.0	274.0	285.2	299.1	315.2	335.4	355.6	377.9	401.6	427.4
145°	274.0	276.1	283.1	292.8	306.1	321.4	339.6	358.4	378.6	400.2	422.5
147.5°	284.5	285.2	291.4	301.9	313.1	327.0	344.4	361.2	379.3	398.1	418.3
150°	294.2	294.9	300.5	308.9	319.3	332.6	347.9	363.3	379.3	396.0	413.5
152.5°	303.3	303.3	308.9	316.6	325.6	337.5	350.7	364.7	377.9	392.6	407.9
155°	311.7	312.4	316.6	323.5	331.2	341.7	353.5	365.4	376.5	389.1	402.3
157.5°	320.0	320.0	324.2	329.8	336.8	345.1	355.6	365.4	375.1	385.6	396.7
160°	327.7	327.7	330.5	335.4	341.0	348.6	357.0	365.4	373.0	381.4	390.5
162.5°	334.7	334.0	336.1	340.3	345.1	350.7	358.4	365.4	370.9	377.2	384.9
165°	339.6	339.6	341.0	344.4	347.9	352.1	358.4	364.0	368.1	373.0	378.6
167.5°	345.1	344.4	345.1	347.9	350.0	353.5	358.4	362.6	365.4	368.8	373.0
170°	348.6	347.9	348.6	350.7	352.1	354.2	357.7	361.2	362.6	364.7	367.5
172.5°	352.1	351.4	351.4	352.8	353.5	354.9	357.0	359.8	359.8	360.5	362.6
175°	354.2	353.5	353.5	354.2	354.9	354.9	356.3	358.4	357.7	357.7	359.1
177.5°	355.6	354.9	354.2	354.9	354.9	354.9	355.6	357.0	355.6	355.6	356.3
180°	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9



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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°	12.6	13.2	13.9	13.9	14.6	15.3	14.6	14.6
92.5°	168.0	125.5	99.0	81.6	71.1	66.2	63.4	63.4
95°	516.7	408.6	315.2	247.5	213.4	191.7	179.2	170.1
97.5°	744.0	690.3	613.6	535.5	488.1	446.2	425.3	408.6
100°	840.9	854.8	820.7	769.1	708.4	665.9	645.0	639.4
102.5°	836.0	919.0	939.9	925.9	894.6	866.7	844.4	840.2
105°	780.9	901.5	970.6	999.2	1000.6	995.0	985.2	981.0
107.5°	713.3	843.7	939.9	998.5	1029.1	1041.7	1047.3	1048.0
110°	653.3	773.9	875.0	951.7	1001.2	1030.5	1043.1	1049.4





TEST NUMBER: P334822

CATALOG NUMBER: S124IP-S810U940-4F0-1E-UDD-4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	609.4	712.6	806.7	883.4	941.3	978.2	997.1	1008.2
115°	582.9	668.7	750.2	817.2	872.3	914.1	936.4	942.0
117.5°	567.6	640.1	706.3	764.9	813.7	849.9	873.7	877.1
120°	557.8	622.6	678.4	727.9	767.7	798.3	816.5	824.1
122.5°	549.4	611.5	661.0	702.8	734.9	760.0	774.6	782.3
125°	539.7	599.6	647.7	686.1	714.0	734.2	747.5	751.6
127.5°	528.5	586.4	634.5	670.8	698.6	716.8	727.9	732.1
130°	514.6	569.7	617.1	654.0	682.6	700.0	711.2	715.4
132.5°	499.9	550.8	596.8	633.8	661.7	681.9	692.4	696.6
135°	486.7	532.0	574.5	609.4	637.3	656.8	668.0	672.1
137.5°	474.1	513.9	550.8	582.9	609.4	629.6	638.7	643.6
140°	463.7	496.4	527.8	557.1	581.5	596.8	606.6	612.2
142.5°	453.9	481.8	507.6	532.0	552.9	566.9	575.2	578.7
145°	444.8	468.6	489.5	509.0	526.4	538.3	545.2	548.7
147.5°	437.2	456.7	474.1	490.2	503.4	513.9	519.5	520.8
150°	430.2	446.2	460.2	472.7	483.9	493.0	497.1	497.8
152.5°	422.5	435.8	448.3	458.1	467.2	474.1	476.2	476.9
155°	414.9	426.0	436.5	444.8	451.8	457.4	459.5	459.5
157.5°	406.5	416.3	425.3	432.3	437.9	442.1	443.5	443.5
160°	398.8	406.5	414.2	419.7	423.9	428.1	428.8	428.8
162.5°	391.2	397.4	403.0	407.9	410.7	414.9	415.6	414.9
165°	384.2	388.4	393.2	396.7	399.5	402.3	401.6	400.9
167.5°	377.2	380.7	384.9	387.0	388.4	390.5	390.5	389.8
170°	370.9	373.0	375.8	377.9	379.3	380.0	379.3	379.3
172.5°	365.4	366.8	368.1	369.5	370.2	370.9	370.2	368.8
175°	360.5	361.2	362.6	362.6	362.6	364.0	362.6	361.2
177.5°	357.0	357.7	357.7	358.4	357.7	358.4	357.0	355.6
180°	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9

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