

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: P334804

Luminaire Tested: **S124IP-S1205U840-4F0-1E-UDD-4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P334804  
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-S1205U840-4F0-1E-UDD-4  
Description: DEFINE 4 INDIRECT LED LUMINAIRE, BATWING OPTIC  
PENDANT MOUNT, 1205 LUMENS PER FOOT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

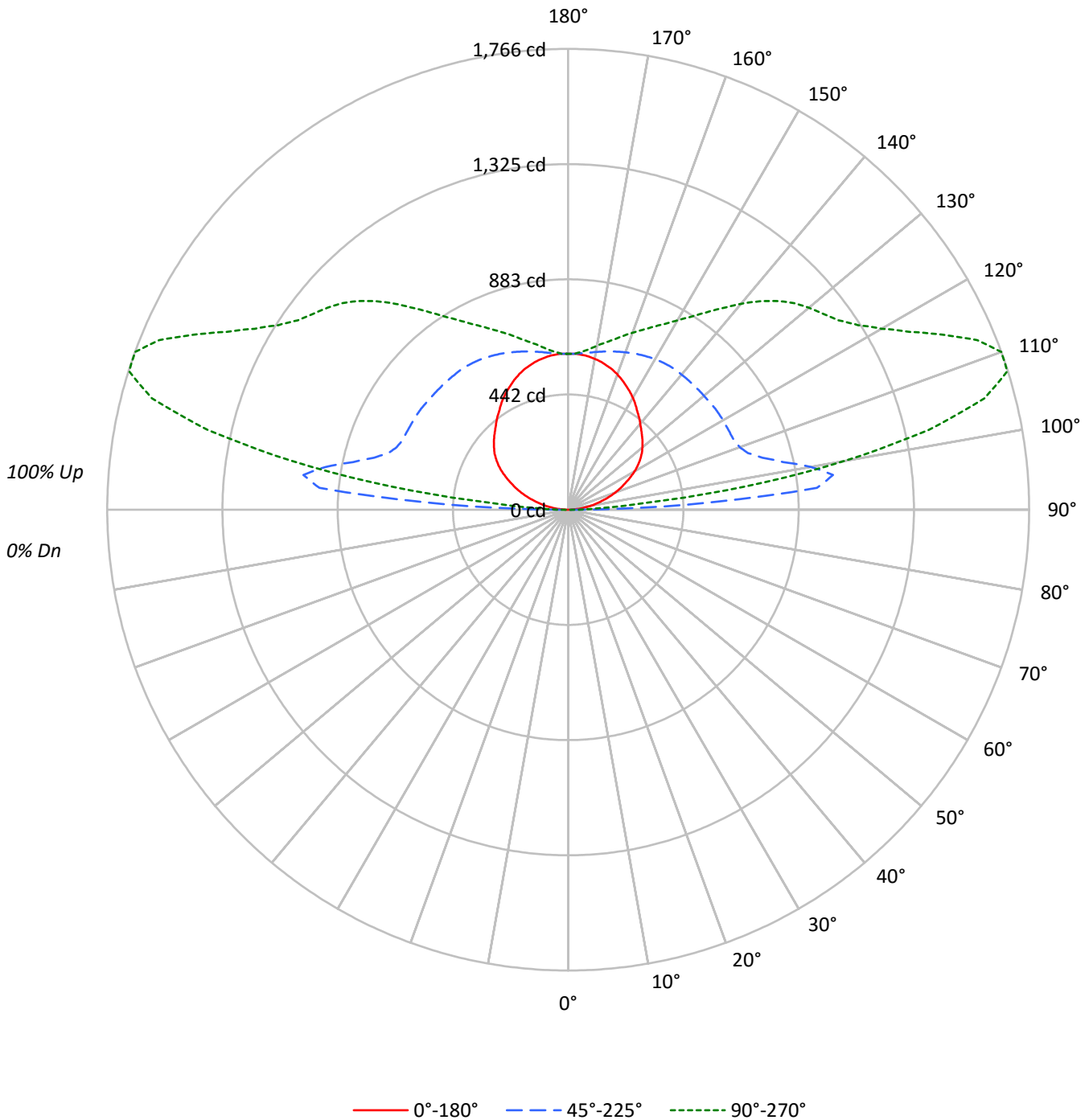
Lumens per Lamp: N/A  
Luminaire Lumens: 4352.6 lumens  
Efficiency: N/A  
Efficacy: 103.9 lumens/watt  
Spacing Criteria (0/90/45): - / - / -  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Indirect

Input Watts (W): 41.9  
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°	2.3	0.1
90°-100°	432.9	9.9
100°-110°	903.8	20.8
110°-120°	803.4	18.5
120°-130°	676.3	15.5
130°-140°	564.2	13.0
140°-150°	430.8	9.9
150°-160°	302.9	7.0
160°-170°	178.1	4.1
170°-180°	57.9	1.3
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	2.3	0.1
90°-120°	2140.1	49.2
90°-150°	3811.3	87.6
90°-180°	4350.0	99.9
0°-180°	4352.6	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	9	21	24	25	3
95°	39	122	956	474	286	42
105°	137	199	770	1658	1651	146
115°	242	303	686	1319	1585	240
125°	337	400	683	1122	1265	300
135°	400	476	677	996	1131	309
145°	461	528	674	840	924	289
155°	524	566	655	742	773	242
165°	572	589	628	665	675	161
175°	596	597	602	610	608	57
180°	597	597	597	597	597	



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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°	1.2	3.5	7.0	8.2	9.4	9.4	16.4	16.4	18.8	21.1	19.9
92.5°	16.4	23.5	36.4	54.0	75.1	105.6	178.4	292.2	402.5	460.0	382.5
95°	38.7	42.2	54.0	69.2	97.4	146.7	248.8	441.2	721.7	956.4	983.4
97.5°	64.5	64.5	75.1	89.2	113.8	156.1	237.0	402.5	691.2	1023.3	1233.3
100°	89.2	89.2	97.4	111.5	133.8	171.3	240.6	373.2	612.5	943.5	1243.9
102.5°	112.7	115.0	122.0	134.9	156.1	191.3	252.3	364.9	559.7	843.7	1155.9
105°	137.3	140.8	146.7	160.8	181.9	215.9	272.2	369.6	533.9	769.8	1045.6
107.5°	164.3	166.6	172.5	187.8	207.7	241.7	293.4	383.7	526.9	721.7	955.2
110°	191.3	193.6	199.5	213.6	234.7	266.4	318.0	400.2	529.2	699.4	890.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	217.1	219.4	226.5	239.4	260.5	292.2	341.5	417.8	536.3	688.8	854.3
115°	241.7	245.3	253.5	265.2	287.5	319.2	366.1	436.5	545.7	686.5	834.3
117.5°	267.5	271.1	278.1	291.0	312.1	345.0	389.6	455.3	555.0	685.3	823.8
120°	293.4	295.7	303.9	316.8	336.8	369.6	414.2	475.3	565.6	685.3	815.6
122.5°	316.8	319.2	327.4	339.1	361.4	393.1	437.7	494.0	576.2	684.1	806.2
125°	336.8	341.5	348.5	361.4	383.7	416.6	458.8	512.8	586.7	683.0	795.6
127.5°	355.6	359.1	367.3	381.4	404.8	437.7	478.8	529.2	594.9	680.6	781.5
130°	370.8	375.5	384.9	402.5	424.8	458.8	498.7	544.5	604.3	679.4	768.6
132.5°	386.1	389.6	402.5	418.9	443.6	475.3	515.2	559.7	612.5	678.3	756.9
135°	400.2	404.8	416.6	436.5	461.2	491.7	530.4	572.7	620.8	677.1	745.1
137.5°	414.2	418.9	431.8	450.6	476.4	505.8	542.1	582.0	625.5	677.1	734.6
140°	429.5	433.0	445.9	465.9	490.5	518.7	553.9	591.4	631.3	675.9	726.4
142.5°	445.9	449.4	461.2	479.9	503.4	530.4	564.4	598.5	636.0	675.9	719.3
145°	461.2	464.7	476.4	492.9	515.2	541.0	571.5	603.2	637.2	673.6	711.1
147.5°	478.8	479.9	490.5	508.1	526.9	550.4	579.7	607.9	638.4	670.0	704.1
150°	495.2	496.4	505.8	519.8	537.4	559.7	585.6	611.4	638.4	666.5	695.9
152.5°	510.5	510.5	519.8	532.8	548.0	568.0	590.3	613.7	636.0	660.7	686.5
155°	524.5	525.7	532.8	544.5	557.4	575.0	594.9	614.9	633.7	654.8	677.1
157.5°	538.6	538.6	545.7	555.0	566.8	580.9	598.5	614.9	631.3	648.9	667.7
160°	551.5	551.5	556.2	564.4	573.8	586.7	600.8	614.9	627.8	641.9	657.1
162.5°	563.3	562.1	565.6	572.7	580.9	590.3	603.2	614.9	624.3	634.8	647.8
165°	571.5	571.5	573.8	579.7	585.6	592.6	603.2	612.5	619.6	627.8	637.2
167.5°	580.9	579.7	580.9	585.6	589.1	594.9	603.2	610.2	614.9	620.8	627.8
170°	586.7	585.6	586.7	590.3	592.6	596.1	602.0	607.9	610.2	613.7	618.4
172.5°	592.6	591.4	591.4	593.8	594.9	597.3	600.8	605.5	605.5	606.7	610.2
175°	596.1	594.9	594.9	596.1	597.3	597.3	599.6	603.2	602.0	602.0	604.3
177.5°	598.5	597.3	596.1	597.3	597.3	597.3	598.5	600.8	598.5	598.5	599.6
180°	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3



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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°	21.1	22.3	23.5	23.5	24.6	25.8	24.6	24.6
92.5°	282.8	211.2	166.6	137.3	119.7	111.5	106.8	106.8
95°	869.5	687.6	530.4	416.6	359.1	322.7	301.6	286.3
97.5°	1252.1	1161.7	1032.6	901.2	821.4	751.0	715.8	687.6
100°	1415.2	1438.7	1381.2	1294.3	1192.2	1120.7	1085.5	1076.1
102.5°	1407.0	1546.6	1581.8	1558.4	1505.6	1458.6	1421.1	1414.0
105°	1314.3	1517.3	1633.5	1681.6	1683.9	1674.5	1658.1	1651.1
107.5°	1200.5	1419.9	1581.8	1680.4	1732.0	1753.2	1762.5	1763.7
110°	1099.5	1302.5	1472.7	1601.8	1685.1	1734.4	1755.5	1766.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1025.6	1199.3	1357.7	1486.8	1584.2	1646.4	1678.1	1696.8
115°	981.0	1125.4	1262.6	1375.3	1468.0	1538.4	1576.0	1585.3
117.5°	955.2	1077.2	1188.7	1287.3	1369.4	1430.5	1470.3	1476.2
120°	938.8	1047.9	1141.8	1225.1	1292.0	1343.6	1374.1	1387.0
122.5°	924.7	1029.1	1112.4	1182.9	1236.8	1279.1	1303.7	1316.6
125°	908.3	1009.2	1090.1	1154.7	1201.6	1235.7	1258.0	1265.0
127.5°	889.5	986.9	1067.9	1128.9	1175.8	1206.3	1225.1	1232.1
130°	866.0	958.7	1038.5	1100.7	1148.8	1178.2	1196.9	1204.0
132.5°	841.4	927.0	1004.5	1066.7	1113.6	1147.6	1165.2	1172.3
135°	819.1	895.4	966.9	1025.6	1072.5	1105.4	1124.2	1131.2
137.5°	798.0	864.8	927.0	981.0	1025.6	1059.6	1074.9	1083.1
140°	780.4	835.5	888.3	937.6	978.7	1004.5	1020.9	1030.3
142.5°	763.9	810.9	854.3	895.4	930.6	954.0	968.1	974.0
145°	748.7	788.6	823.8	856.6	886.0	905.9	917.6	923.5
147.5°	735.8	768.6	798.0	824.9	847.2	864.8	874.2	876.6
150°	724.0	751.0	774.5	795.6	814.4	829.6	836.7	837.9
152.5°	711.1	733.4	754.5	771.0	786.2	798.0	801.5	802.6
155°	698.2	717.0	734.6	748.7	760.4	769.8	773.3	773.3
157.5°	684.1	700.6	715.8	727.5	736.9	744.0	746.3	746.3
160°	671.2	684.1	697.0	706.4	713.5	720.5	721.7	721.7
162.5°	658.3	668.9	678.3	686.5	691.2	698.2	699.4	698.2
165°	646.6	653.6	661.8	667.7	672.4	677.1	675.9	674.7
167.5°	634.8	640.7	647.8	651.3	653.6	657.1	657.1	656.0
170°	624.3	627.8	632.5	636.0	638.4	639.5	638.4	638.4
172.5°	614.9	617.2	619.6	621.9	623.1	624.3	623.1	620.8
175°	606.7	607.9	610.2	610.2	610.2	612.5	610.2	607.9
177.5°	600.8	602.0	602.0	603.2	602.0	603.2	600.8	598.5
180°	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3

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