

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: P331632-927

Luminaire Tested: **S122RDIP-S290D725U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331632-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIP-S290D725U927-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3061.5 lumens  
Efficiency: N/A  
Efficacy: 98.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

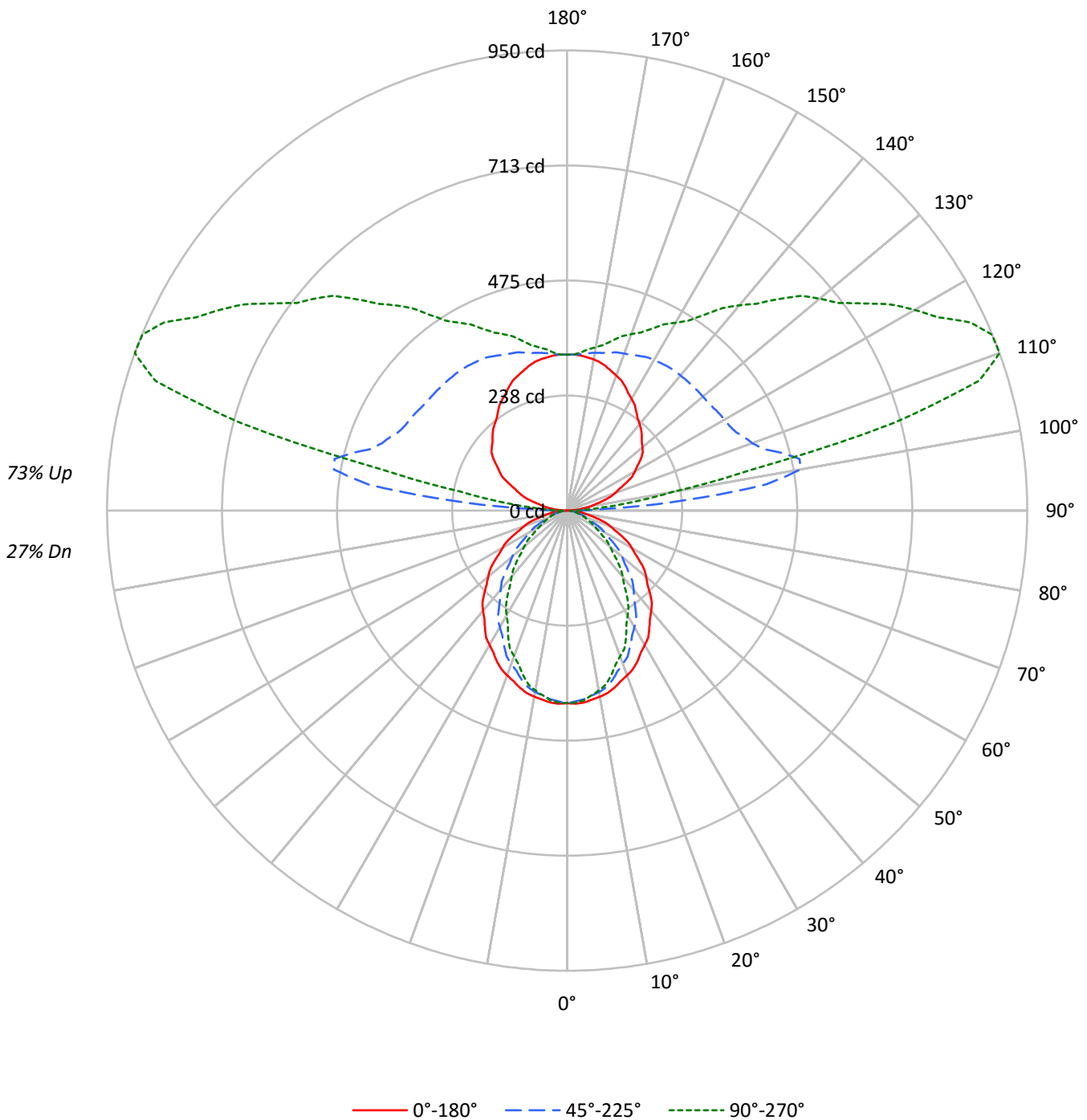
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27
1	93	89	85	82	83	79	76	74	62	60	58	46	45	43	31	30	30	23
2	85	78	72	67	75	70	65	61	55	51	48	41	38	37	28	26	25	20
3	77	68	62	56	69	61	56	51	48	44	41	36	33	31	25	23	22	17
4	71	61	53	48	63	55	48	43	43	39	35	32	29	27	22	21	19	15
5	65	54	46	41	58	49	42	37	38	34	30	29	26	23	20	18	17	13
6	60	48	41	35	53	44	37	32	35	30	26	26	23	21	18	16	15	12
7	55	44	36	31	49	39	33	28	31	27	23	24	21	18	17	15	13	10
8	51	40	32	27	46	36	29	25	29	24	21	22	19	16	15	13	12	9
9	48	36	29	24	43	33	26	22	26	22	18	20	17	15	14	12	11	8
10	44	33	26	21	40	30	24	20	24	20	16	18	15	13	13	11	10	8

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6421	6421	6421
5°	6446	6340	6374
10°	6396	6237	6184
15°	6322	6051	5877
20°	6220	5787	5498
25°	6116	5489	5129
30°	5972	5179	4657
35°	5830	4845	4242
40°	5689	4498	3762
45°	5523	4108	3329
50°	5350	3715	2901
55°	5177	3291	2494
60°	4973	2848	2070
65°	4741	2392	1883
70°	4471	1969	1733
75°	4130	1797	1616
80°	3645	1609	1469
85°	2853	1260	1260



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.2	1.2
10°-20°	102.2	3.3
20°-30°	143.5	4.7
30°-40°	156.5	5.1
40°-50°	143.9	4.7
50°-60°	113.0	3.7
60°-70°	73.7	2.4
70°-80°	38.0	1.2
80°-90°	12.7	0.4
90°-100°	128.7	4.2
100°-110°	436.9	14.3
110°-120°	464.2	15.2
120°-130°	382.1	12.5
130°-140°	306.8	10.0
140°-150°	231.9	7.6
150°-160°	163.0	5.3
160°-170°	95.9	3.1
170°-180°	31.2	1.0
0°-30°	282.9	9.2
0°-40°	439.4	14.4
0°-60°	696.4	22.7
0°-90°	820.8	26.8
90°-120°	1029.8	33.6
90°-150°	1950.7	63.7
90°-180°	2241.0	73.2
0°-180°	3061.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	398	396	391	394	393	38
15°	378	374	362	355	352	106
25°	343	331	308	294	288	158
35°	296	277	246	224	215	185
45°	242	217	180	155	146	187
55°	184	155	117	96	89	164
65°	124	95	63	51	49	123
75°	66	42	29	26	26	70
85°	15	8	7	7	7	18
90°	1	8	21	20	20	2
95°	22	53	243	92	71	23
105°	76	114	459	820	698	80
115°	133	168	384	792	918	132
125°	186	220	369	642	745	165
135°	218	260	365	539	617	168
145°	249	286	363	451	493	156
155°	283	306	352	398	414	130
165°	308	318	338	358	364	87
175°	321	322	324	328	328	31
180°	322	322	322	322	322	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	399.1	398.8	398.5	398.2	397.8	397.3	396.6	395.9	395.2	394.5	395.1
5°	397.7	397.3	396.9	396.5	396.1	395.3	394.3	393.2	392.2	391.2	391.9
7.5°	393.6	393.1	392.5	392.1	391.6	390.7	389.5	388.2	387.1	385.9	386.0
10°	390.1	389.5	389.0	388.4	387.9	386.7	385.2	383.6	382.0	380.4	380.2
12.5°	385.8	385.1	384.4	383.7	383.0	381.7	379.6	377.6	375.5	373.4	373.0
15°	378.2	377.3	376.4	375.6	374.7	372.9	370.2	367.5	364.7	362.0	360.5
17.5°	368.9	367.6	366.2	364.9	363.5	361.2	357.7	354.2	350.7	347.2	345.4
20°	362.0	360.4	358.9	357.2	355.6	352.8	348.8	344.8	340.9	336.8	334.9
22.5°	354.6	352.8	350.9	349.2	347.4	344.2	339.7	335.2	330.7	326.2	323.6
25°	343.3	340.7	338.2	335.6	333.1	329.2	323.8	318.6	313.3	308.1	304.8
27.5°	329.8	327.0	324.2	321.5	318.6	314.3	308.3	302.4	296.4	290.5	286.7
30°	320.3	317.3	314.2	311.2	308.2	303.4	297.0	290.7	284.2	277.8	273.8
32.5°	311.1	307.5	304.0	300.4	296.8	291.8	285.3	278.8	272.3	265.7	261.1
35°	295.8	291.8	287.6	283.6	279.5	273.9	266.9	259.8	252.9	245.8	240.7
37.5°	280.6	276.1	271.6	267.1	262.6	256.7	249.1	241.6	234.2	226.6	221.1
40°	269.9	265.1	260.3	255.5	250.7	244.5	236.7	228.9	221.2	213.4	207.7
42.5°	259.0	253.9	248.8	243.8	238.8	232.2	224.2	216.2	208.2	200.2	194.3
45°	241.9	236.5	231.1	225.8	220.4	213.5	205.1	196.7	188.3	179.9	174.3
47.5°	225.1	219.4	213.8	208.1	202.4	195.3	186.6	177.9	169.2	160.6	155.0
50°	213.0	207.4	201.7	196.0	190.4	183.1	174.3	165.5	156.7	147.9	142.4
52.5°	201.2	195.3	189.4	183.5	177.5	170.2	161.6	153.0	144.4	135.8	130.5
55°	183.9	177.7	171.4	165.2	158.9	151.5	142.8	134.2	125.6	116.9	112.2
57.5°	166.1	159.7	153.3	146.9	140.5	133.2	124.8	116.6	108.3	100.0	95.5
60°	154.0	147.7	141.2	134.8	128.4	121.1	112.9	104.6	96.4	88.2	84.1
62.5°	142.2	135.9	129.4	123.0	116.6	109.5	101.6	93.8	86.0	78.1	74.2
65°	124.1	117.6	111.2	104.7	98.2	91.4	84.2	77.0	69.8	62.6	59.9
67.5°	106.7	100.3	93.9	87.5	81.0	74.5	68.0	61.6	55.1	48.6	47.4
70°	94.7	88.4	82.1	76.0	69.7	63.8	58.3	52.8	47.3	41.7	41.0
72.5°	83.1	77.2	71.1	65.2	59.2	54.0	49.6	45.2	40.7	36.3	35.6
75°	66.2	60.6	55.1	49.4	43.8	39.7	36.9	34.2	31.5	28.8	28.2
77.5°	49.6	44.7	39.8	34.9	29.9	26.9	25.5	24.2	22.9	21.6	21.3
80°	39.2	35.2	31.1	27.0	22.9	20.4	19.6	18.9	18.1	17.3	17.0
82.5°	29.7	26.5	23.4	20.2	17.0	15.1	14.6	14.0	13.5	13.0	12.8
85°	15.4	13.8	12.1	10.5	8.8	7.8	7.5	7.3	7.1	6.8	6.8
87.5°	4.8	4.6	4.6	4.3	4.0	4.2	4.8	5.6	6.4	6.5	6.3
90°	0.6	2.5	5.0	6.2	7.4	9.3	12.4	16.7	20.4	21.1	20.4
92.5°	7.5	10.9	15.4	18.1	22.3	28.1	42.1	61.8	79.4	80.5	68.0
95°	21.7	24.2	30.3	35.9	45.8	60.7	89.2	143.1	214.9	242.7	212.4
97.5°	35.3	38.7	45.2	53.6	65.0	81.8	117.6	192.7	312.1	414.4	434.7
100°	47.7	49.5	55.1	65.0	77.4	94.7	127.5	203.1	336.8	489.2	578.4
102.5°	59.1	60.4	66.0	75.9	88.8	106.2	136.5	203.6	327.5	491.7	631.8
105°	75.6	78.0	82.4	91.7	105.3	122.6	151.7	206.8	309.0	458.8	623.6
107.5°	93.4	95.4	99.6	108.1	121.6	139.1	167.3	215.4	299.8	423.7	569.2
110°	105.3	107.7	111.5	119.5	132.5	150.5	177.7	222.3	297.9	406.9	535.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	116.1	118.7	122.9	130.4	142.9	161.4	187.7	229.7	298.3	395.9	511.3
115°	133.2	136.3	140.0	147.3	159.8	176.5	203.1	240.9	301.0	384.0	481.8
117.5°	150.8	153.2	156.9	163.5	175.4	192.7	217.4	252.8	305.4	378.1	463.2
120°	161.6	164.1	167.8	173.4	185.8	203.1	227.3	260.7	308.4	374.6	453.3
122.5°	172.1	174.0	177.7	183.8	196.1	214.0	236.7	267.7	311.9	372.6	444.9
125°	185.8	187.7	191.3	198.8	211.2	228.5	250.8	278.7	317.0	369.1	432.8
127.5°	196.7	199.2	204.4	212.5	224.4	242.2	264.0	288.9	322.4	366.9	421.7
130°	203.1	205.6	211.8	220.5	232.8	250.2	271.9	295.4	326.4	366.0	414.3
132.5°	209.1	212.1	218.7	227.9	240.7	258.1	278.8	301.8	330.3	365.5	408.4
135°	218.0	220.5	227.9	237.2	251.4	268.8	288.6	310.2	335.0	364.7	400.1
137.5°	226.4	229.3	236.8	246.7	260.9	276.9	296.5	316.7	339.2	364.6	394.2
140°	232.8	235.3	242.7	252.6	266.3	282.4	301.0	320.1	341.2	364.1	390.8
142.5°	239.2	241.3	248.2	258.1	271.2	286.4	304.4	323.1	342.7	364.1	387.3
145°	248.9	251.4	257.6	266.9	279.2	292.9	309.7	326.9	344.3	362.9	382.7
147.5°	259.4	261.2	267.1	275.7	286.0	298.1	313.9	329.1	344.8	360.7	378.0
150°	266.3	268.2	273.1	281.1	290.4	301.6	315.8	330.0	344.3	359.2	374.0
152.5°	273.2	274.1	279.0	286.1	294.9	305.1	317.8	330.6	343.3	356.7	370.6
155°	283.0	283.6	287.3	294.1	301.0	310.2	320.8	331.3	341.8	352.4	364.1
157.5°	291.2	291.8	294.8	300.7	306.2	313.9	322.9	331.3	339.0	347.9	358.1
160°	296.6	297.2	299.7	304.7	309.7	316.4	323.8	331.3	337.5	344.9	353.6
162.5°	302.1	301.7	304.2	308.2	312.6	317.9	324.4	330.8	336.0	342.5	349.6
165°	308.4	307.8	309.0	312.8	315.8	319.6	325.1	329.5	333.2	337.5	343.1
167.5°	313.6	312.8	313.9	316.3	318.5	320.9	325.0	328.6	330.3	333.2	336.6
170°	317.0	315.8	316.4	318.3	319.6	321.4	324.5	327.6	328.8	330.7	333.2
172.5°	319.0	318.3	317.9	319.8	320.5	321.9	324.0	326.1	326.9	327.7	329.7
175°	321.4	320.8	320.1	321.4	321.4	322.0	323.2	324.5	323.8	324.5	325.1
177.5°	322.5	321.5	321.0	322.0	322.0	322.0	322.5	323.5	322.5	322.0	322.5
180°	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	395.8	396.4	397.0	397.3	397.2	397.0	396.9	396.8
5°	392.6	393.3	394.0	394.3	394.0	393.8	393.6	393.3
7.5°	386.3	386.5	386.7	386.6	386.2	385.7	385.3	384.9
10°	379.9	379.7	379.5	379.1	378.6	378.1	377.6	377.2
12.5°	372.6	372.2	371.8	371.1	370.3	369.6	368.8	368.0
15°	359.0	357.4	355.9	354.8	354.0	353.2	352.4	351.6
17.5°	343.6	341.7	340.0	338.4	337.0	335.6	334.2	332.9
20°	332.9	330.8	328.8	326.9	325.2	323.4	321.7	320.0
22.5°	321.1	318.5	315.9	313.9	312.6	311.3	310.0	308.7
25°	301.5	298.2	294.9	292.7	291.5	290.3	289.1	287.9
27.5°	282.8	279.0	275.2	272.4	270.5	268.5	266.6	264.7
30°	269.7	265.6	261.5	258.4	256.2	254.1	251.9	249.8
32.5°	256.4	251.8	247.1	243.8	241.8	239.7	237.7	235.7
35°	235.8	230.7	225.6	222.2	220.5	218.7	217.0	215.2
37.5°	215.6	210.0	204.5	200.7	198.7	196.6	194.6	192.6
40°	202.1	196.4	190.7	186.8	184.7	182.7	180.5	178.5
42.5°	188.4	182.5	176.7	172.8	170.7	168.7	166.7	164.7
45°	168.6	162.9	157.2	153.4	151.5	149.6	147.7	145.8
47.5°	149.2	143.6	138.0	134.3	132.5	130.8	129.0	127.3
50°	136.9	131.3	125.8	122.2	120.6	118.9	117.2	115.5
52.5°	125.2	119.9	114.5	111.1	109.6	108.0	106.4	104.9
55°	107.3	102.6	97.8	94.6	93.1	91.6	90.1	88.6
57.5°	91.2	86.7	82.4	79.5	78.3	77.0	75.7	74.4
60°	80.0	76.0	71.9	69.2	67.9	66.6	65.4	64.1
62.5°	70.3	66.5	62.6	60.2	59.4	58.7	57.9	57.1
65°	57.2	54.4	51.7	50.2	50.0	49.7	49.5	49.3
67.5°	46.2	44.9	43.6	42.9	42.6	42.4	42.1	41.9
70°	40.2	39.4	38.6	38.0	37.6	37.3	37.0	36.7
72.5°	34.9	34.2	33.6	33.2	33.0	32.8	32.6	32.4
75°	27.6	27.1	26.5	26.2	26.1	26.1	26.0	25.9
77.5°	20.9	20.6	20.3	20.1	20.0	19.8	19.7	19.6
80°	16.6	16.3	16.0	15.8	15.8	15.8	15.8	15.8
82.5°	12.6	12.4	12.2	12.1	12.1	12.1	12.1	12.1
85°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
87.5°	6.1	5.9	6.0	6.1	6.1	6.1	6.1	6.1
90°	19.8	18.6	19.8	20.4	20.4	20.4	20.4	20.4
92.5°	54.0	46.3	41.1	37.3	36.8	34.8	35.3	34.3
95°	162.2	124.5	98.5	84.8	76.8	71.9	69.9	70.6
97.5°	378.6	309.7	242.7	198.0	168.4	153.2	144.2	138.9
100°	565.4	488.6	403.8	328.8	277.4	250.8	232.8	221.7
102.5°	687.8	670.4	608.3	528.9	473.1	427.6	405.2	390.1
105°	752.4	822.4	830.4	810.0	771.6	733.2	706.5	697.9
107.5°	705.8	811.2	875.6	905.6	910.5	908.3	903.0	891.4
110°	665.7	776.6	855.8	906.6	933.2	945.0	950.5	949.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	629.1	735.4	820.1	878.4	915.4	935.1	945.6	949.0
115°	583.9	679.3	760.4	824.2	868.2	896.7	912.8	918.4
117.5°	550.0	633.7	707.3	767.1	812.0	842.1	859.0	863.7
120°	533.1	610.0	675.6	732.0	775.3	804.4	822.4	828.5
122.5°	519.8	590.2	652.3	703.2	742.1	770.7	786.7	791.9
125°	500.3	564.1	618.6	665.0	701.0	724.5	740.0	745.0
127.5°	481.2	538.8	590.3	633.1	664.5	686.5	699.9	703.9
130°	468.7	522.0	570.9	611.8	642.1	663.2	675.6	680.6
132.5°	456.9	506.2	551.1	589.5	619.4	640.4	651.8	656.2
135°	440.3	481.2	522.0	556.7	583.4	603.8	614.9	617.4
137.5°	427.1	461.2	493.7	523.9	548.2	565.8	575.5	579.2
140°	418.6	448.4	476.8	504.1	523.9	540.0	549.3	553.0
142.5°	411.7	437.0	461.4	484.3	503.1	517.7	526.0	526.7
145°	401.9	422.3	441.6	459.5	474.4	484.9	491.1	492.9
147.5°	394.3	410.4	425.4	438.6	450.8	459.2	463.4	464.5
150°	388.9	402.5	415.5	426.7	435.9	443.4	447.1	447.7
152.5°	383.4	396.1	407.1	416.8	424.1	430.5	433.2	433.3
155°	375.9	385.8	395.1	401.9	408.7	413.0	415.5	414.3
157.5°	367.1	375.4	383.2	388.5	393.3	397.0	398.1	398.1
160°	361.6	368.4	375.3	379.6	384.0	387.1	387.6	387.6
162.5°	356.2	362.0	367.8	371.2	375.5	377.6	378.3	377.7
165°	348.0	352.4	356.7	359.2	361.6	364.1	364.1	363.5
167.5°	340.2	343.6	346.5	348.8	349.9	351.3	351.1	350.4
170°	336.3	338.1	340.6	341.8	342.5	344.3	343.6	342.5
172.5°	331.8	333.2	335.2	335.9	336.5	337.4	336.8	336.0
175°	326.9	327.6	328.2	328.8	328.8	329.5	328.8	327.6
177.5°	323.5	323.5	324.0	324.0	324.0	324.0	323.5	322.5
180°	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0

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