

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: P332603-830

Luminaire Tested: **S124DIP-S795D810U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332603-830  
REPORT 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: S124DIP-S795D810U830-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5782.3 lumens  
Efficiency: N/A  
Efficacy: 126.0 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

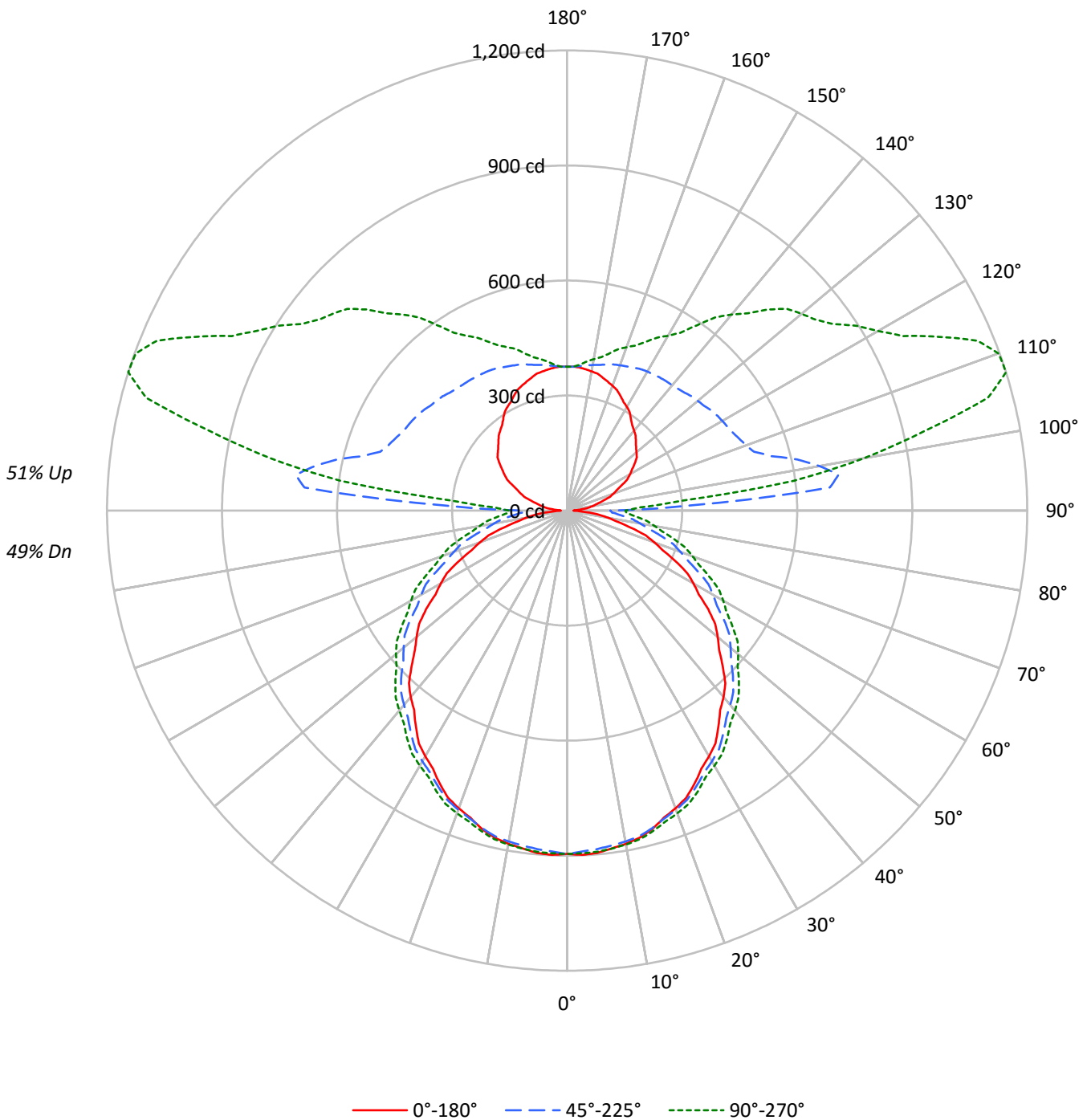
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	87	80	73	68	80	73	68	63	62	57	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	39	35	32	32	29	26	22
5	66	54	46	40	61	50	43	37	43	37	32	35	31	27	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	35	29	25	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

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

	0°	45°	90°
0°	7228	7228	7228
5°	7250	7064	7083
10°	7205	6948	6943
15°	7141	6814	6777
20°	7044	6667	6616
25°	6934	6501	6439
30°	6815	6336	6256
35°	6681	6168	6097
40°	6573	6008	5930
45°	6413	5859	5787
50°	6278	5689	5636
55°	6138	5529	5459
60°	5920	5324	5298
65°	5683	5104	5098
70°	5394	4853	4868
75°	4992	4579	4659
80°	4540	4312	4453
85°	3980	4075	4334



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.8	1.5
10°-20°	242.9	4.2
20°-30°	367.3	6.4
30°-40°	444.4	7.7
40°-50°	469.8	8.1
50°-60°	442.2	7.6
60°-70°	366.8	6.3
70°-80°	257.7	4.5
80°-90°	147.8	2.6
90°-100°	357.4	6.2
100°-110°	628.0	10.9
110°-120°	548.1	9.5
120°-130°	449.1	7.8
130°-140°	364.7	6.3
140°-150°	272.8	4.7
150°-160°	190.2	3.3
160°-170°	111.9	1.9
170°-180°	36.4	0.6
0°-30°	695.0	12.0
0°-40°	1139.4	19.7
0°-60°	2051.4	35.5
0°-90°	2823.6	48.8
90°-120°	1533.5	26.5
90°-150°	2620.1	45.3
90°-180°	2959.0	51.2
0°-180°	5782.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	895	895	895	895	895	
5°	896	893	886	894	893	85
15°	859	860	857	866	865	242
25°	786	792	795	806	807	362
35°	688	700	710	723	727	431
45°	573	593	612	628	634	443
55°	449	471	500	520	526	400
65°	311	343	377	401	410	308
75°	172	210	252	279	289	183
85°	53	95	140	169	180	57
90°	17	62	112	142	152	12
95°	37	123	688	411	303	38
105°	95	155	550	1131	1136	102
115°	158	207	478	897	1072	157
125°	216	256	457	751	848	192
135°	253	302	434	650	742	196
145°	291	332	423	534	590	183
155°	329	356	411	466	486	152
165°	359	370	394	418	424	101
175°	374	375	378	383	382	36
180°	375	375	375	375	375	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3
2.5°	898.5	898.0	897.4	896.9	896.4	895.4	893.9	892.5	891.1	889.7	890.9
5°	896.3	895.6	894.9	894.3	893.6	892.5	890.9	889.4	887.8	886.3	888.1
7.5°	888.6	888.3	887.9	887.5	887.0	886.2	885.0	883.6	882.3	881.1	883.1
10°	882.2	882.0	881.8	881.6	881.4	880.7	879.6	878.4	877.3	876.2	878.3
12.5°	873.5	873.4	873.4	873.3	873.3	872.9	872.1	871.3	870.5	869.8	871.7
15°	859.2	859.4	859.6	859.9	860.1	859.9	859.2	858.6	857.8	857.1	859.2
17.5°	839.7	840.4	841.0	841.8	842.4	842.6	842.5	842.4	842.3	842.2	844.2
20°	826.1	826.8	827.5	828.1	828.8	829.2	829.4	829.6	829.9	830.1	832.4
22.5°	810.9	811.7	812.6	813.4	814.3	814.9	815.3	815.7	816.1	816.5	818.7
25°	786.0	787.3	788.7	790.0	791.4	792.4	793.1	793.7	794.4	795.0	797.5
27.5°	758.4	760.3	762.2	764.2	766.2	767.7	768.7	769.7	770.7	771.8	774.0
30°	739.9	741.7	743.5	745.3	747.1	748.7	750.3	751.8	753.4	754.9	757.3
32.5°	719.8	722.0	724.2	726.2	728.4	730.3	732.1	733.8	735.6	737.3	740.1
35°	687.8	690.4	693.1	695.8	698.4	700.9	703.1	705.4	707.6	709.8	712.9
37.5°	655.4	658.6	661.7	664.7	667.8	670.7	673.4	676.2	679.0	681.7	684.9
40°	634.6	637.5	640.4	643.3	646.2	649.2	652.3	655.4	658.6	661.7	665.1
42.5°	610.6	613.8	617.1	620.3	623.6	627.0	630.7	634.3	638.0	641.6	645.4
45°	573.4	577.7	581.9	586.2	590.4	594.7	598.9	603.1	607.3	611.5	615.4
47.5°	538.0	542.3	546.7	551.1	555.4	560.1	565.0	569.9	574.8	579.7	583.6
50°	512.3	517.2	522.1	527.0	531.9	536.8	541.7	546.6	551.5	556.4	560.9
52.5°	486.6	491.5	496.4	501.3	506.2	511.5	517.1	522.7	528.4	534.0	538.4
55°	449.1	453.8	458.5	463.2	467.9	473.5	480.2	486.9	493.6	500.3	504.7
57.5°	407.3	413.0	418.9	424.6	430.4	436.6	443.3	449.9	456.6	463.2	468.4
60°	379.9	385.8	391.5	397.4	403.1	409.7	417.1	424.4	431.8	439.1	444.2
62.5°	353.5	359.9	366.2	372.5	378.8	385.7	393.0	400.4	407.7	415.1	420.2
65°	310.8	317.9	325.1	332.2	339.3	346.7	354.2	361.8	369.4	376.9	382.5
67.5°	269.7	277.3	284.8	292.4	300.0	307.8	315.9	324.0	332.2	340.3	345.9
70°	241.6	249.2	256.7	264.4	271.9	279.9	288.4	296.9	305.3	313.8	319.8
72.5°	214.3	222.1	229.9	237.6	245.3	253.7	262.8	271.7	280.8	289.7	295.6
75°	172.5	180.7	188.9	197.2	205.4	214.2	223.6	232.9	242.3	251.7	257.9
77.5°	133.4	142.0	150.8	159.6	168.2	177.6	187.4	197.2	207.0	216.8	223.1
80°	109.2	118.2	127.1	136.0	145.0	154.3	164.1	173.9	183.7	193.5	200.2
82.5°	85.2	94.4	103.8	113.0	122.2	131.9	141.7	151.5	161.3	171.1	177.9
85°	53.2	62.5	71.8	81.2	90.6	100.3	110.3	120.3	130.4	140.3	147.0
87.5°	29.8	39.2	48.7	58.0	67.2	76.6	87.3	97.1	107.1	117.2	123.5
90°	16.8	27.1	38.3	48.0	57.6	66.8	80.9	90.4	101.5	112.5	118.3
92.5°	23.7	35.5	50.4	67.5	86.2	110.4	157.4	224.1	289.5	328.2	295.4
95°	37.3	46.9	61.6	78.6	103.6	142.8	216.0	346.1	531.3	687.9	710.9
97.5°	55.4	61.8	74.5	89.6	111.1	144.8	203.2	312.0	496.2	713.6	862.7
100°	67.0	72.9	83.8	98.4	118.2	149.0	201.2	293.2	452.2	668.7	863.5
102.5°	78.8	85.1	94.7	108.1	126.6	155.8	203.6	285.4	421.9	614.6	815.0
105°	95.3	101.9	110.1	123.4	141.1	168.8	212.4	281.8	393.2	549.6	728.4
107.5°	115.4	120.6	127.9	140.9	157.3	184.1	224.3	287.9	383.8	510.8	657.6
110°	128.2	132.7	139.6	151.5	167.9	193.2	233.5	292.8	381.7	496.4	621.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	140.3	144.6	151.6	162.6	178.6	203.7	242.3	298.4	381.6	487.1	599.2
115°	157.9	162.0	169.2	178.6	194.6	219.0	255.7	307.0	382.7	478.2	576.0
117.5°	177.1	180.4	186.2	195.5	209.8	234.3	269.0	316.3	384.4	471.6	562.0
120°	189.3	191.4	197.3	206.0	219.2	243.4	277.9	322.6	385.9	467.5	553.7
122.5°	201.0	202.6	207.9	215.6	229.4	252.6	286.7	328.8	387.5	462.9	545.1
125°	215.6	218.3	222.4	230.4	244.1	267.4	299.5	339.0	391.0	457.0	532.0
127.5°	229.0	231.2	236.3	245.3	259.7	282.5	312.5	347.8	392.6	449.4	515.3
130°	235.9	238.7	244.3	255.1	268.9	292.0	320.6	352.9	394.1	444.8	504.8
132.5°	243.6	245.7	253.2	263.3	278.3	299.8	327.7	358.7	395.7	440.9	495.5
135°	253.4	256.3	263.6	276.2	291.6	311.6	337.4	365.5	397.4	434.2	480.6
137.5°	264.1	266.6	274.6	286.3	302.1	320.7	344.1	369.7	397.2	429.5	468.0
140°	271.7	273.7	281.6	293.9	309.2	326.9	349.2	373.0	398.3	426.5	461.1
142.5°	279.2	281.3	288.8	300.8	315.6	332.6	353.9	375.7	399.4	424.9	455.6
145°	290.7	292.7	299.8	309.9	323.7	339.8	358.9	378.8	400.2	423.0	448.0
147.5°	303.8	304.3	310.6	320.9	332.3	346.9	364.9	382.2	401.0	420.4	441.3
150°	312.0	312.5	318.2	326.8	337.6	351.6	367.8	384.0	401.0	418.6	437.1
152.5°	318.9	319.0	324.8	333.0	342.9	355.7	370.1	385.1	399.7	415.7	432.3
155°	329.4	330.2	334.6	342.0	350.1	361.1	373.6	386.2	397.9	411.2	425.3
157.5°	339.9	339.9	344.0	349.8	356.8	365.5	376.2	386.2	396.1	406.7	418.0
160°	346.4	346.4	349.3	354.5	360.4	368.5	377.3	386.2	394.3	403.1	412.7
162.5°	352.3	351.7	354.0	358.6	363.9	370.2	378.5	386.2	392.6	399.6	408.0
165°	358.9	358.9	360.4	364.1	367.8	372.2	378.8	384.7	389.2	394.3	400.2
167.5°	365.5	364.9	365.5	368.3	370.4	373.8	378.7	383.0	385.6	389.0	393.1
170°	368.5	367.8	368.5	370.7	372.2	374.4	378.1	381.7	383.2	385.4	388.4
172.5°	371.5	370.7	370.9	372.5	373.3	374.9	377.5	380.6	380.9	381.9	384.3
175°	374.4	373.6	373.6	374.4	375.1	375.1	376.6	378.8	378.1	378.1	379.6
177.5°	375.7	375.1	374.6	375.1	375.1	375.1	375.7	376.9	375.7	375.7	376.3
180°	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3
2.5°	892.1	893.4	894.7	895.2	895.0	894.8	894.7	894.5
5°	889.9	891.6	893.3	894.2	893.9	893.7	893.5	893.2
7.5°	885.0	887.0	889.1	889.9	889.8	889.5	889.3	889.1
10°	880.2	882.2	884.3	885.1	885.0	884.7	884.5	884.3
12.5°	873.5	875.3	877.1	878.0	878.0	877.9	877.9	877.8
15°	861.2	863.2	865.2	866.1	865.9	865.6	865.4	865.2
17.5°	846.2	848.3	850.4	851.3	851.1	850.9	850.7	850.6
20°	834.5	836.8	839.1	840.2	840.2	840.2	840.2	840.2
22.5°	821.0	823.1	825.4	826.7	827.1	827.4	827.7	828.1
25°	799.9	802.4	804.8	806.2	806.3	806.6	806.8	807.1
27.5°	776.3	778.5	780.9	782.1	782.4	782.7	783.0	783.2
30°	759.8	762.2	764.7	766.2	766.7	767.0	767.5	768.0
32.5°	742.9	745.7	748.5	750.2	750.5	751.0	751.5	752.0
35°	716.0	719.2	722.3	724.2	724.8	725.5	726.2	726.9
37.5°	688.1	691.3	694.4	696.4	697.0	697.8	698.4	699.2
40°	668.4	671.8	675.0	677.1	678.1	678.9	679.9	680.7
42.5°	649.0	652.7	656.4	658.6	659.3	660.1	660.8	661.5
45°	619.2	622.9	626.7	629.1	630.3	631.4	632.5	633.6
47.5°	587.5	591.4	595.4	597.9	599.4	600.7	602.0	603.3
50°	565.3	569.8	574.2	577.1	578.4	579.9	581.2	582.5
52.5°	542.9	547.3	551.8	554.7	556.0	557.3	558.6	560.1
55°	509.2	513.7	518.1	521.0	522.4	523.7	525.0	526.3
57.5°	473.8	479.1	484.4	487.7	488.9	490.1	491.4	492.7
60°	449.4	454.5	459.6	463.1	464.9	466.7	468.4	470.2
62.5°	425.3	430.5	435.5	439.0	440.8	442.6	444.3	446.1
65°	388.1	393.7	399.3	402.9	404.7	406.5	408.2	410.0
67.5°	351.6	357.2	362.9	366.6	368.3	370.0	371.8	373.5
70°	325.8	331.9	337.9	341.7	343.2	344.8	346.3	347.9
72.5°	301.4	307.3	313.1	316.9	318.6	320.4	322.1	323.9
75°	264.1	270.3	276.6	280.7	282.8	284.7	286.7	288.7
77.5°	229.4	235.7	242.0	246.3	248.5	250.5	252.7	254.9
80°	206.9	213.6	220.3	224.4	226.2	228.0	229.8	231.6
82.5°	184.7	191.6	198.5	202.9	204.8	206.8	208.8	210.8
85°	153.7	160.4	167.1	171.5	173.8	176.0	178.2	180.5
87.5°	130.1	136.7	143.3	147.5	149.6	151.7	153.5	155.5
90°	125.5	132.6	139.9	143.9	146.5	149.0	150.1	151.8
92.5°	251.8	222.3	206.2	195.6	188.6	186.4	185.7	187.5
95°	645.4	537.2	444.4	376.9	342.8	322.0	310.8	303.1
97.5°	899.6	862.9	796.7	723.6	672.6	630.2	610.0	596.5
100°	977.0	997.8	967.7	916.9	854.4	811.0	790.4	786.1
102.5°	968.6	1047.4	1063.8	1044.9	1007.3	976.5	954.9	951.9
105°	902.8	1035.9	1114.4	1148.2	1151.5	1147.4	1138.9	1136.2
107.5°	812.6	953.9	1062.1	1131.3	1169.3	1187.7	1196.7	1200.2
110°	758.0	890.6	1002.6	1087.1	1141.2	1173.9	1189.0	1197.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	716.4	834.2	940.1	1024.5	1085.7	1124.9	1145.3	1157.8
115°	673.1	768.6	859.7	933.7	993.5	1039.2	1064.4	1071.9
117.5°	648.2	727.9	800.3	863.6	915.0	953.9	979.6	985.9
120°	635.6	708.6	772.0	827.5	871.3	905.5	926.4	936.3
122.5°	624.5	695.1	753.3	802.1	839.2	868.6	886.4	896.1
125°	607.0	674.6	729.7	773.0	803.8	826.5	841.9	847.6
127.5°	585.8	650.4	705.1	746.3	777.4	798.0	811.2	817.2
130°	570.0	632.2	686.4	728.0	759.6	779.4	792.5	798.2
132.5°	554.0	612.6	665.3	706.9	737.9	760.1	772.6	778.4
135°	530.6	582.0	630.6	669.9	700.7	722.6	735.7	741.5
137.5°	509.8	553.6	594.7	630.3	658.9	680.4	691.3	697.7
140°	497.9	535.5	571.5	604.5	631.4	648.7	660.2	667.1
142.5°	487.3	520.4	551.4	579.9	603.7	619.7	629.7	634.8
145°	472.9	499.3	522.7	544.5	563.8	577.2	585.5	590.0
147.5°	461.0	481.1	498.9	515.6	529.9	541.3	547.6	549.7
150°	454.7	471.6	486.4	499.6	511.5	521.0	525.5	526.2
152.5°	448.3	462.8	476.4	487.3	497.3	505.1	507.7	508.5
155°	438.5	450.3	461.4	470.2	477.6	483.4	485.7	485.7
157.5°	428.0	437.9	447.2	454.3	459.9	464.3	465.6	465.6
160°	421.6	429.7	437.8	443.7	448.1	452.5	453.3	453.3
162.5°	415.1	422.0	428.4	433.7	436.9	441.3	442.1	441.5
165°	406.0	410.5	415.7	419.3	422.3	425.3	424.5	423.8
167.5°	397.4	400.8	404.9	407.1	408.6	410.5	410.4	409.7
170°	392.1	394.3	397.3	399.4	401.0	401.6	401.0	401.0
172.5°	387.4	389.0	390.8	392.4	393.2	394.0	393.2	392.1
175°	381.1	381.7	383.2	383.2	383.2	384.7	383.2	381.7
177.5°	376.9	377.5	377.5	378.1	377.5	378.1	376.9	375.7
180°	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1

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