

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: P331958-940

Luminaire Tested: **S123DIP-S775D365U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331958-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S775D365U940-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4174.9 lumens  
Efficiency: N/A  
Efficacy: 119.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

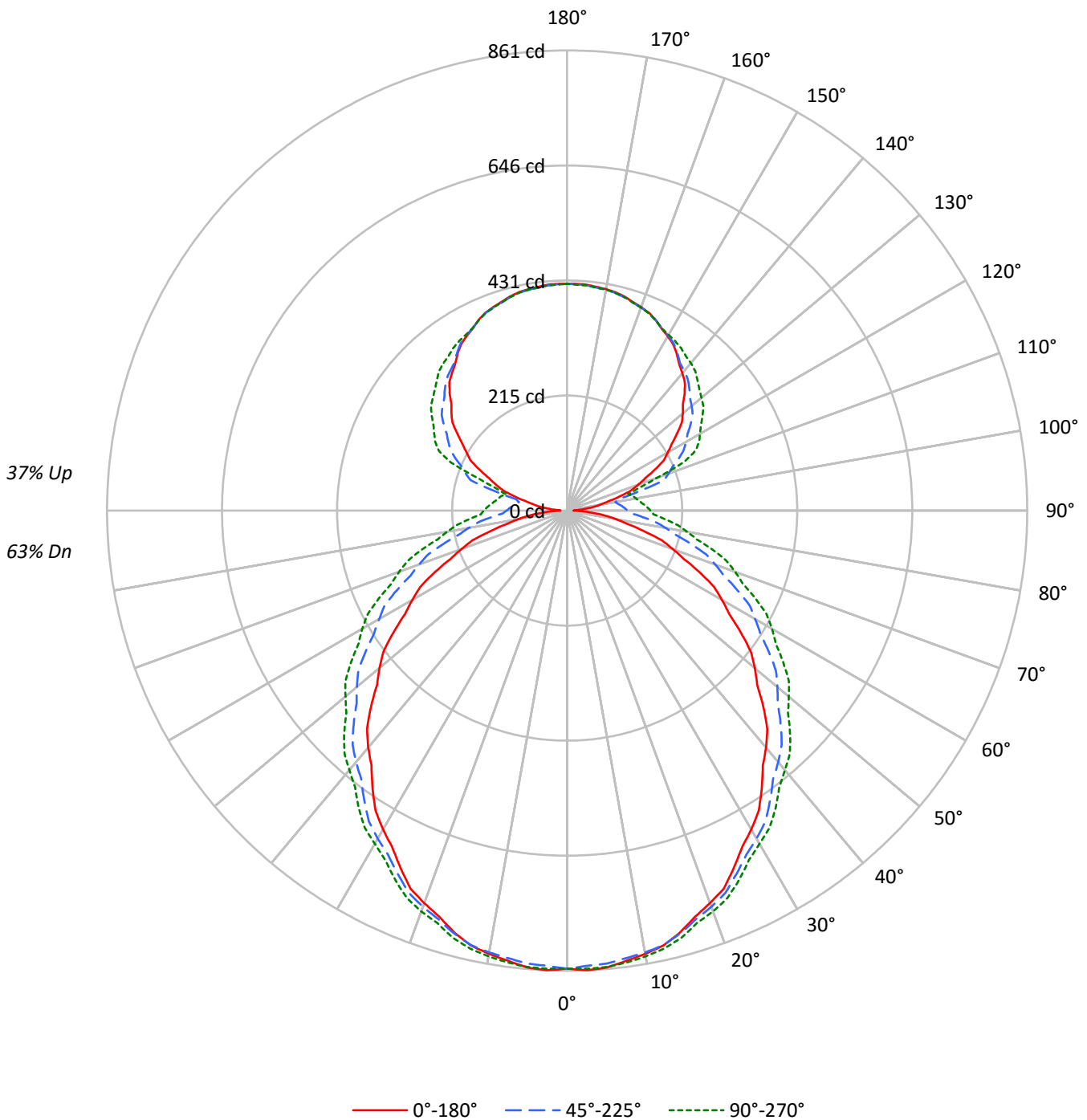
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331958-940

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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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63
1	99	94	90	86	93	89	85	81	78	75	72	68	65	63	58	57	55	50
2	90	82	75	69	84	77	71	65	67	63	58	59	55	52	51	48	45	41
3	82	71	63	57	76	67	60	54	59	53	49	51	47	43	44	41	38	34
4	75	63	54	48	70	59	52	46	52	46	41	46	41	37	39	36	32	29
5	69	56	47	41	64	53	45	39	47	40	35	41	36	32	35	31	28	25
6	63	50	42	35	59	47	40	34	42	35	31	37	32	28	32	28	25	22
7	58	45	37	31	54	43	35	30	38	32	27	33	28	24	29	25	22	19
8	54	41	33	27	51	39	31	26	35	28	24	31	25	22	27	23	19	17
9	50	38	30	24	47	36	28	23	32	26	21	28	23	19	25	21	18	15
10	47	35	27	22	44	33	26	21	29	23	19	26	21	18	23	19	16	14

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

	0°	45°	90°
0°	9226	9226	9226
5°	9255	8994	8999
10°	9172	8787	8743
15°	9054	8552	8462
20°	8884	8283	8155
25°	8676	7974	7832
30°	8462	7695	7504
35°	8223	7401	7242
40°	7995	7134	6961
45°	7742	6877	6737
50°	7490	6622	6490
55°	7215	6363	6268
60°	6946	6099	6041
65°	6670	5818	5769
70°	6254	5502	5492
75°	5730	5140	5210
80°	5128	4782	4885
85°	4559	4540	4699



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.3	1.9
10°-20°	231.6	5.5
20°-30°	346.4	8.3
30°-40°	413.7	9.9
40°-50°	432.9	10.4
50°-60°	406.2	9.7
60°-70°	339.3	8.1
70°-80°	242.7	5.8
80°-90°	145.9	3.5
90°-100°	106.2	2.5
100°-110°	140.2	3.4
110°-120°	221.1	5.3
120°-130°	250.2	6.0
130°-140°	251.6	6.0
140°-150°	227.0	5.4
150°-160°	181.2	4.3
160°-170°	116.9	2.8
170°-180°	40.3	1.0
0°-30°	659.3	15.8
0°-40°	1073.0	25.7
0°-60°	1912.1	45.8
0°-90°	2640.0	63.2
90°-120°	467.6	11.2
90°-150°	1196.5	28.7
90°-180°	1535.0	36.8
0°-180°	4174.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	857	857	857	857	857	
5°	858	856	851	858	857	81
15°	817	820	819	828	827	230
25°	738	747	750	761	762	340
35°	635	650	662	675	680	397
45°	519	542	565	582	590	400
55°	396	427	460	484	493	354
65°	274	310	351	378	388	270
75°	148	192	239	269	281	159
85°	46	93	142	172	183	48
90°	12	62	113	145	156	9
95°	30	54	102	132	143	32
105°	101	126	139	112	118	107
115°	181	195	230	255	265	179
125°	251	255	282	302	309	224
135°	311	313	324	340	345	239
145°	358	359	360	367	371	224
155°	393	392	393	394	392	181
165°	414	413	413	415	413	117
175°	424	423	423	425	423	40
180°	424	424	424	424	424	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	860.9	860.3	859.9	859.3	858.9	857.9	856.7	855.3	854.0	852.7	854.0
5°	858.1	857.6	857.2	856.8	856.4	855.6	854.3	853.1	851.9	850.6	852.3
7.5°	849.6	849.7	849.8	849.9	850.0	849.4	848.2	847.0	845.8	844.6	846.7
10°	842.2	842.6	843.0	843.5	843.8	843.6	842.5	841.5	840.4	839.4	841.5
12.5°	833.2	833.8	834.4	835.0	835.5	835.5	834.8	834.1	833.4	832.7	834.6
15°	817.0	817.6	818.2	818.9	819.5	819.7	819.5	819.3	819.0	818.9	820.9
17.5°	796.5	797.7	799.0	800.1	801.4	802.0	801.9	801.8	801.7	801.6	803.5
20°	781.5	782.7	784.0	785.2	786.5	787.3	787.7	788.2	788.5	789.0	790.9
22.5°	765.8	767.0	768.3	769.5	770.8	771.7	772.3	772.8	773.5	774.0	776.4
25°	737.6	739.7	741.7	743.9	745.9	747.3	747.9	748.5	749.1	749.8	752.4
27.5°	709.3	711.6	714.0	716.3	718.7	720.5	721.8	723.2	724.5	725.9	728.2
30°	689.0	691.8	694.5	697.1	699.8	702.0	703.6	705.3	707.0	708.6	711.1
32.5°	666.6	669.7	672.7	675.7	678.8	681.4	683.5	685.7	687.9	690.0	692.7
35°	634.9	638.2	641.6	644.9	648.2	651.2	653.9	656.6	659.3	662.0	665.1
37.5°	601.3	605.0	608.8	612.5	616.3	619.7	623.1	626.4	629.7	633.0	636.6
40°	578.9	582.6	586.4	590.1	593.8	597.8	601.9	606.1	610.2	614.4	617.9
42.5°	554.2	558.8	563.4	567.9	572.5	576.9	581.2	585.6	589.9	594.2	598.1
45°	519.2	524.1	529.1	534.0	539.0	544.1	549.3	554.5	559.7	564.9	568.8
47.5°	482.3	488.0	493.7	499.3	504.9	510.7	516.7	522.5	528.5	534.4	538.9
50°	458.4	464.2	470.0	475.9	481.7	487.8	494.3	500.7	507.1	513.5	518.3
52.5°	433.0	439.2	445.3	451.5	457.6	464.2	471.4	478.4	485.5	492.6	497.6
55°	395.9	402.7	409.6	416.4	423.3	430.4	437.9	445.4	452.8	460.3	465.9
57.5°	359.6	366.8	373.9	381.0	388.3	395.8	404.0	412.2	420.4	428.6	434.2
60°	334.3	341.7	349.2	356.7	364.2	372.1	380.7	389.1	397.6	406.2	412.0
62.5°	310.3	318.0	325.7	333.2	340.9	349.2	358.2	367.2	376.2	385.2	391.0
65°	273.6	281.7	289.7	297.8	305.9	314.5	323.7	332.8	342.0	351.1	357.3
67.5°	236.2	244.8	253.4	262.0	270.5	279.6	288.8	298.1	307.4	316.7	323.5
70°	210.1	219.0	227.9	236.8	245.8	255.2	265.2	275.1	285.1	295.1	301.7
72.5°	186.2	195.1	204.0	212.9	221.9	231.5	241.7	252.1	262.3	272.6	279.5
75°	148.5	158.2	168.0	177.7	187.4	197.5	207.9	218.3	228.6	239.1	245.8
77.5°	115.6	125.5	135.3	145.1	154.9	165.1	175.6	186.0	196.4	206.9	214.1
80°	92.5	102.6	112.8	123.0	133.1	143.6	154.4	165.1	175.9	186.7	193.8
82.5°	72.2	82.6	92.9	103.3	113.6	124.2	135.2	146.2	157.1	168.1	175.1
85°	45.7	56.1	66.5	76.9	87.2	97.9	109.0	119.9	130.9	142.0	149.0
87.5°	24.9	35.4	45.8	56.4	66.8	77.4	88.2	99.0	109.7	120.5	127.6
90°	12.5	23.4	34.2	45.0	55.9	67.1	78.6	90.1	101.6	113.1	120.4
92.5°	17.2	26.2	35.2	44.1	53.1	63.2	74.3	85.4	96.5	107.6	114.9
95°	29.5	34.7	39.9	45.1	50.4	58.5	69.4	80.3	91.3	102.2	109.1
97.5°	47.8	53.8	59.8	65.8	71.9	77.2	81.9	86.5	91.2	95.9	102.6
100°	61.6	69.7	77.8	85.8	93.8	97.1	95.8	94.4	93.0	91.7	98.2
102.5°	77.6	84.5	91.5	98.5	105.5	107.7	105.1	102.5	100.0	97.5	101.6
105°	101.4	107.1	112.9	118.6	124.4	128.6	131.2	133.8	136.4	139.0	132.4
107.5°	125.6	130.5	135.3	140.1	145.0	152.1	161.6	171.0	180.5	189.9	186.5
110°	141.7	146.1	150.3	154.6	158.9	165.6	174.7	183.7	192.8	201.9	204.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	157.8	161.4	165.0	168.6	172.2	178.3	187.1	195.8	204.6	213.3	218.6
115°	180.8	183.7	186.6	189.6	192.4	198.0	206.1	214.2	222.2	230.3	236.0
117.5°	203.8	205.8	207.9	209.9	212.0	216.7	224.0	231.3	238.7	246.0	251.5
120°	217.4	219.0	220.7	222.4	224.1	228.4	235.5	242.5	249.6	256.6	262.0
122.5°	232.0	233.1	234.1	235.1	236.2	240.1	246.9	253.7	260.5	267.2	272.2
125°	251.1	251.6	252.3	252.8	253.3	256.8	263.1	269.4	275.6	282.0	286.4
127.5°	270.5	270.9	271.3	271.6	271.9	274.7	280.1	285.3	290.7	296.0	300.3
130°	282.6	282.9	283.3	283.7	284.0	286.4	290.9	295.2	299.7	304.2	308.4
132.5°	293.5	294.0	294.5	295.0	295.5	297.6	301.1	304.7	308.2	311.7	315.8
135°	310.9	311.2	311.4	311.7	311.8	313.3	315.8	318.3	320.9	323.5	327.4
137.5°	325.9	326.3	326.6	327.0	327.3	328.3	329.8	331.2	332.6	334.0	337.7
140°	335.3	335.6	336.1	336.5	337.0	337.6	338.4	339.2	340.1	340.9	344.3
142.5°	344.6	344.8	345.1	345.4	345.6	345.9	346.3	346.6	346.9	347.2	350.3
145°	357.7	357.9	358.2	358.5	358.7	359.0	359.1	359.3	359.4	359.5	361.3
147.5°	369.0	369.3	369.6	370.0	370.2	370.5	370.7	370.8	371.0	371.0	371.7
150°	376.6	376.7	376.9	377.2	377.4	377.6	377.7	377.8	378.0	378.1	378.3
152.5°	383.3	383.4	383.5	383.6	383.7	383.9	383.9	384.0	384.1	384.1	384.4
155°	393.0	392.8	392.6	392.5	392.4	392.4	392.4	392.4	392.5	392.6	393.0
157.5°	400.4	400.4	400.4	400.3	400.3	400.3	400.2	400.1	400.0	400.0	400.4
160°	404.9	404.8	404.7	404.7	404.7	404.6	404.5	404.4	404.4	404.3	404.7
162.5°	409.2	409.0	408.8	408.7	408.5	408.3	408.2	408.2	408.1	408.0	408.5
165°	414.4	414.1	413.9	413.8	413.5	413.4	413.3	413.2	413.1	413.1	413.7
167.5°	418.4	418.1	417.9	417.6	417.2	417.1	417.1	417.1	417.1	417.1	417.7
170°	420.6	420.4	420.1	419.8	419.5	419.4	419.4	419.4	419.4	419.4	420.0
172.5°	422.1	421.9	421.5	421.2	420.8	420.7	420.7	420.8	420.9	420.9	421.5
175°	424.1	423.7	423.4	423.1	422.8	422.6	422.7	422.8	422.8	422.8	423.4
177.5°	424.6	424.4	424.1	423.8	423.5	423.4	423.5	423.5	423.6	423.7	424.1
180°	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	855.3	856.7	857.9	858.5	858.4	858.2	858.0	857.9
5°	853.9	855.6	857.2	857.9	857.7	857.6	857.4	857.1
7.5°	848.7	850.9	852.9	853.8	853.5	853.4	853.1	852.8
10°	843.6	845.6	847.7	848.6	848.1	847.7	847.3	846.9
12.5°	836.5	838.4	840.3	841.1	840.6	840.3	839.8	839.4
15°	823.0	825.1	827.2	828.0	827.9	827.7	827.4	827.2
17.5°	805.4	807.3	809.1	809.9	809.7	809.3	809.0	808.8
20°	792.7	794.6	796.5	797.5	797.7	797.9	798.1	798.3
22.5°	778.7	781.1	783.5	784.6	784.5	784.3	784.3	784.1
25°	755.2	757.9	760.5	761.9	761.9	761.9	761.9	761.9
27.5°	730.5	732.8	735.1	736.4	736.6	736.7	736.9	737.1
30°	713.6	716.1	718.6	719.9	719.9	719.9	719.9	719.9
32.5°	695.3	697.9	700.6	702.2	702.7	703.2	703.6	704.2
35°	668.2	671.4	674.4	676.5	677.3	678.1	678.9	679.8
37.5°	640.1	643.6	647.1	649.3	649.9	650.6	651.2	651.9
40°	621.4	624.9	628.5	630.6	631.5	632.3	633.1	634.0
42.5°	601.9	605.7	609.7	612.2	613.3	614.5	615.6	616.8
45°	572.7	576.7	580.7	583.4	585.1	586.7	588.4	590.1
47.5°	543.3	547.8	552.2	555.1	556.3	557.7	558.9	560.2
50°	523.1	527.8	532.6	535.7	537.2	538.6	540.1	541.5
52.5°	502.5	507.5	512.4	515.8	517.5	519.3	521.1	522.9
55°	471.5	477.2	482.7	486.3	488.0	489.6	491.3	493.0
57.5°	439.9	445.5	451.1	455.0	456.9	458.9	460.7	462.7
60°	417.8	423.6	429.4	433.5	435.7	438.0	440.3	442.6
62.5°	396.9	402.7	408.5	412.4	414.6	416.7	418.8	420.9
65°	363.6	369.7	375.9	380.1	382.2	384.2	386.4	388.4
67.5°	330.3	337.2	343.9	348.2	349.9	351.7	353.5	355.2
70°	308.4	315.0	321.6	325.9	328.1	330.1	332.2	334.3
72.5°	286.2	293.0	299.9	304.3	306.4	308.4	310.5	312.6
75°	252.7	259.6	266.4	271.1	273.6	276.1	278.6	281.1
77.5°	221.3	228.5	235.8	240.3	242.3	244.2	246.1	248.0
80°	200.8	207.9	215.0	219.5	221.6	223.6	225.8	227.8
82.5°	182.2	189.2	196.3	200.8	203.0	205.0	207.1	209.1
85°	156.0	163.1	170.1	174.7	176.7	178.9	180.9	183.0
87.5°	134.6	141.8	148.9	153.6	155.6	157.7	159.8	161.9
90°	127.8	135.1	142.4	147.2	149.4	151.6	153.8	156.0
92.5°	122.3	129.6	137.0	141.6	143.6	145.6	147.6	149.5
95°	116.0	123.0	129.9	134.4	136.4	138.6	140.6	142.7
97.5°	109.3	116.1	122.8	127.2	129.4	131.5	133.7	135.9
100°	104.8	111.4	118.0	122.3	124.5	126.6	128.8	130.9
102.5°	105.8	109.9	114.0	117.1	119.3	121.5	123.7	125.9
105°	125.9	119.3	112.7	110.4	112.4	114.4	116.5	118.4
107.5°	182.9	179.4	175.8	170.3	162.8	155.3	147.8	140.3
110°	208.0	211.2	214.2	211.6	203.2	194.8	186.5	178.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	223.8	229.1	234.3	236.8	236.6	236.3	235.9	235.7
115°	241.7	247.4	253.1	256.9	258.9	260.7	262.7	264.7
117.5°	257.0	262.5	268.0	271.6	273.2	274.9	276.6	278.3
120°	267.3	272.6	277.9	281.3	282.9	284.3	285.7	287.1
122.5°	277.2	282.2	287.2	290.5	292.0	293.6	295.1	296.6
125°	291.0	295.4	300.0	303.0	304.6	306.2	307.7	309.3
127.5°	304.7	309.0	313.3	316.1	317.4	318.7	319.9	321.2
130°	312.5	316.8	321.0	323.7	324.8	325.9	327.0	328.1
132.5°	319.9	323.9	328.0	330.6	331.8	333.1	334.2	335.5
135°	331.4	335.3	339.2	341.6	342.5	343.3	344.1	344.9
137.5°	341.3	344.9	348.5	350.8	351.7	352.6	353.5	354.4
140°	347.7	351.1	354.5	356.6	357.5	358.4	359.3	360.2
142.5°	353.2	356.2	359.3	361.1	362.0	362.8	363.7	364.5
145°	363.1	365.0	366.8	368.0	368.9	369.7	370.5	371.4
147.5°	372.4	373.0	373.6	374.2	374.6	375.0	375.4	375.9
150°	378.4	378.5	378.7	378.9	379.1	379.2	379.5	379.7
152.5°	384.7	385.0	385.2	385.2	385.0	384.7	384.5	384.2
155°	393.3	393.7	394.0	394.0	393.6	393.2	392.7	392.3
157.5°	400.8	401.3	401.7	401.6	401.1	400.6	399.9	399.4
160°	405.1	405.6	406.0	405.9	405.5	404.9	404.5	403.9
162.5°	409.0	409.5	409.9	410.0	409.6	409.1	408.7	408.2
165°	414.2	414.8	415.4	415.4	414.9	414.4	413.9	413.4
167.5°	418.2	418.8	419.4	419.4	418.8	418.2	417.7	417.1
170°	420.5	421.1	421.6	421.6	421.1	420.5	420.0	419.4
172.5°	422.0	422.6	423.1	423.1	422.5	421.9	421.2	420.6
175°	423.8	424.4	424.8	424.8	424.3	423.7	423.1	422.6
177.5°	424.5	425.0	425.4	425.3	424.8	424.3	423.7	423.1
180°	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1

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