

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: P332630-930

Luminaire Tested: **S124DIP-S1020D365U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332630-930
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-S1020D365U930-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

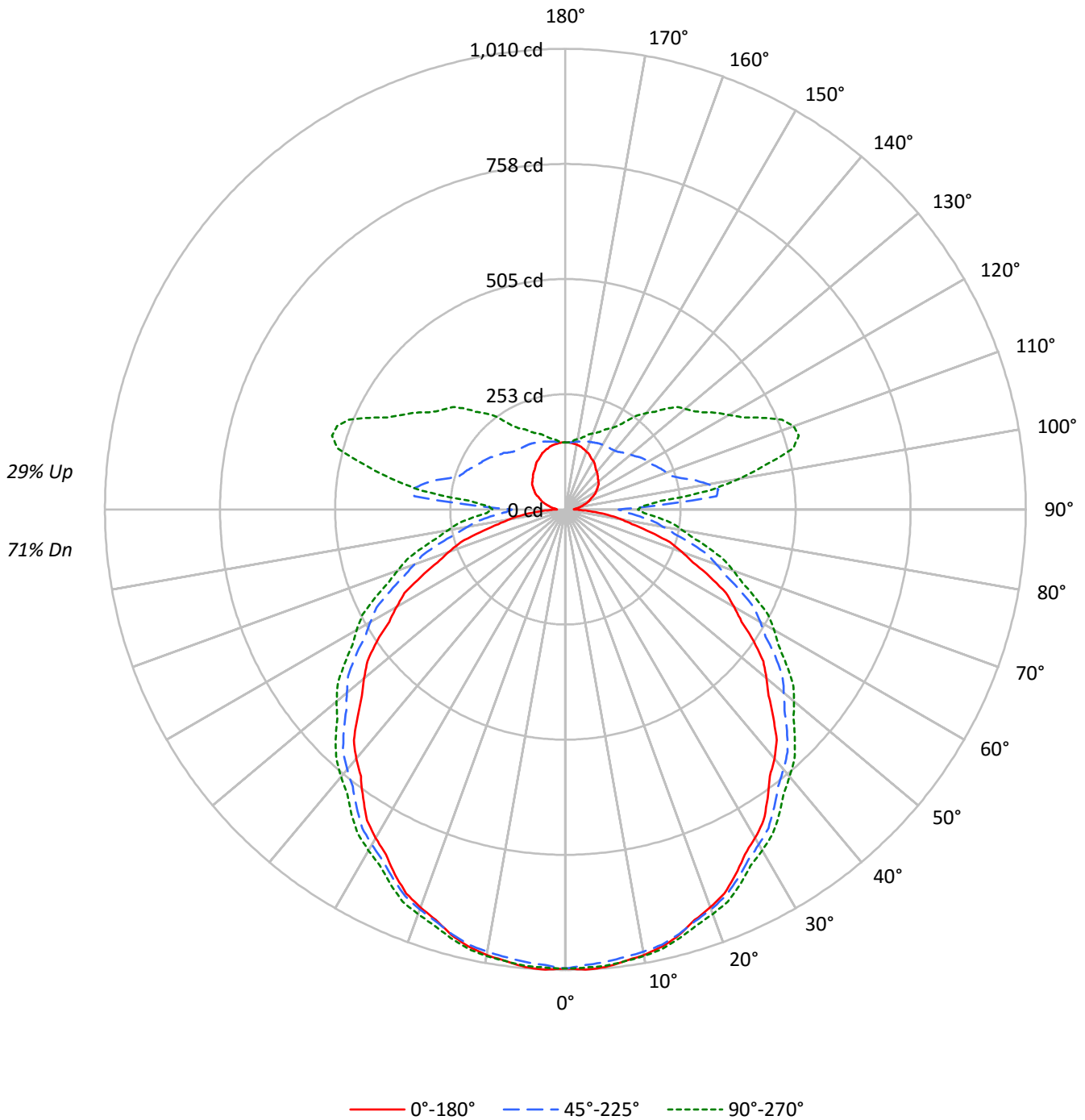
Lumens per Lamp: N/A
Luminaire Lumens: 4498.9 lumens
Efficiency: N/A
Efficacy: 103.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 43.5
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	50	30	10	0	
RCR																						
0	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	71				
1	101	96	91	87	95	91	87	83	81	78	75	72	70	68	64	62	61	56				
2	91	83	76	70	86	79	72	67	70	65	61	63	59	55	56	53	50	46				
3	83	72	64	58	78	69	61	55	61	56	51	55	50	46	49	45	42	38				
4	76	64	55	49	71	61	53	47	54	48	43	49	43	39	43	39	36	32				
5	69	57	48	41	65	54	46	40	49	42	37	43	38	34	39	34	31	28				
6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	31	27	24				
7	59	46	37	31	56	44	36	30	40	33	28	36	30	26	32	27	24	21				
8	55	42	33	28	52	40	32	27	36	30	25	33	27	23	29	25	21	19				
9	51	38	30	25	48	36	29	24	33	27	22	30	25	21	27	22	19	17				
10	48	35	27	22	45	34	26	22	31	24	20	28	22	19	25	21	17	15				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8127	8127	8127
5°	8151	7942	7965
10°	8102	7812	7807
15°	8029	7662	7620
20°	7920	7496	7438
25°	7797	7310	7239
30°	7663	7125	7034
35°	7511	6935	6855
40°	7390	6755	6667
45°	7210	6588	6507
50°	7059	6397	6337
55°	6902	6217	6138
60°	6657	5986	5956
65°	6389	5740	5734
70°	6066	5458	5474
75°	5612	5146	5239
80°	5110	4847	5007
85°	4474	4583	4872



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.3	2.1
10°-20°	273.1	6.1
20°-30°	413.0	9.2
30°-40°	499.7	11.1
40°-50°	528.2	11.7
50°-60°	497.1	11.1
60°-70°	412.5	9.2
70°-80°	289.7	6.4
80°-90°	164.6	3.7
90°-100°	203.2	4.5
100°-110°	292.5	6.5
110°-120°	245.8	5.5
120°-130°	193.4	4.3
130°-140°	150.3	3.3
140°-150°	108.2	2.4
150°-160°	74.4	1.7
160°-170°	43.7	1.0
170°-180°	14.2	0.3
0°-30°	781.4	17.4
0°-40°	1281.1	28.5
0°-60°	2306.5	51.3
0°-90°	3173.3	70.5
90°-120°	741.5	16.5
90°-150°	1193.3	26.5
90°-180°	1326.0	29.5
0°-180°	4498.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1007	1007	1007	1007	1007	
5°	1008	1004	996	1005	1004	96
15°	966	967	964	973	973	272
25°	884	890	894	906	907	407
35°	773	787	798	813	817	484
45°	645	666	688	706	712	498
55°	505	529	562	584	592	450
65°	349	386	424	451	461	346
75°	194	236	283	313	325	206
85°	60	107	158	190	203	64
90°	18	66	117	149	159	12
95°	24	82	333	244	209	22
105°	44	83	263	508	517	47
115°	66	93	222	401	475	66
125°	87	103	199	328	370	78
135°	100	120	176	272	313	78
145°	114	130	165	213	238	72
155°	129	139	161	182	190	59
165°	140	145	154	163	166	40
175°	146	147	148	150	149	14
180°	147	147	147	147	147	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1010.2	1009.7	1009.0	1008.4	1007.8	1006.7	1005.1	1003.6	1001.9	1000.3	1001.7
5°	1007.7	1007.0	1006.2	1005.5	1004.8	1003.5	1001.8	1000.0	998.3	996.5	998.5
7.5°	999.1	998.7	998.3	997.8	997.4	996.5	995.0	993.5	992.1	990.6	992.9
10°	992.0	991.7	991.5	991.2	991.0	990.2	989.0	987.7	986.4	985.2	987.5
12.5°	982.0	982.0	981.9	981.9	981.9	981.4	980.6	979.7	978.8	978.0	980.1
15°	966.0	966.3	966.5	966.8	967.0	966.8	966.0	965.3	964.5	963.8	966.0
17.5°	944.2	944.9	945.7	946.4	947.2	947.5	947.3	947.2	947.1	946.9	949.2
20°	928.9	929.6	930.3	931.1	931.9	932.4	932.6	932.9	933.1	933.4	935.9
22.5°	911.7	912.6	913.6	914.6	915.5	916.2	916.6	917.1	917.5	918.0	920.6
25°	883.8	885.3	886.7	888.3	889.7	890.9	891.6	892.4	893.2	893.9	896.7
27.5°	852.6	854.8	857.0	859.2	861.4	863.2	864.3	865.4	866.6	867.7	870.3
30°	831.9	833.9	835.9	837.9	839.9	841.8	843.5	845.3	847.0	848.8	851.6
32.5°	809.3	811.8	814.2	816.6	819.0	821.2	823.1	825.1	827.0	829.0	832.1
35°	773.3	776.3	779.3	782.3	785.3	788.1	790.6	793.0	795.6	798.1	801.6
37.5°	736.9	740.5	743.9	747.4	750.8	754.1	757.2	760.3	763.4	766.5	770.1
40°	713.5	716.8	720.1	723.3	726.6	729.9	733.4	736.9	740.5	744.0	747.7
42.5°	686.5	690.2	693.8	697.5	701.1	705.0	709.1	713.2	717.3	721.5	725.6
45°	644.7	649.5	654.3	659.1	663.8	668.5	673.4	678.1	682.8	687.6	691.9
47.5°	604.9	609.8	614.7	619.6	624.5	629.7	635.2	640.7	646.3	651.8	656.2
50°	576.0	581.6	587.0	592.6	598.0	603.6	609.1	614.6	620.1	625.6	630.6
52.5°	547.1	552.7	558.2	563.7	569.2	575.1	581.4	587.7	594.0	600.4	605.4
55°	505.0	510.3	515.5	520.8	526.0	532.4	540.0	547.5	555.0	562.5	567.5
57.5°	457.9	464.4	470.9	477.4	484.0	490.9	498.4	505.9	513.3	520.8	526.8
60°	427.2	433.7	440.3	446.8	453.3	460.6	469.0	477.2	485.4	493.7	499.5
62.5°	397.5	404.6	411.7	418.8	425.9	433.6	441.9	450.1	458.4	466.7	472.5
65°	349.4	357.4	365.5	373.5	381.5	389.8	398.3	406.8	415.3	423.9	430.1
67.5°	303.2	311.8	320.2	328.8	337.3	346.1	355.2	364.4	373.5	382.6	389.0
70°	271.7	280.2	288.7	297.2	305.7	314.8	324.2	333.8	343.3	352.9	359.6
72.5°	241.0	249.7	258.4	267.2	275.9	285.3	295.4	305.5	315.7	325.8	332.3
75°	193.9	203.2	212.4	221.7	231.0	240.8	251.4	261.9	272.4	282.9	289.9
77.5°	149.9	159.7	169.6	179.4	189.2	199.6	210.7	221.7	232.7	243.7	250.8
80°	122.9	132.9	142.9	153.0	163.0	173.5	184.5	195.5	206.5	217.5	225.1
82.5°	95.8	106.2	116.7	127.1	137.5	148.2	159.2	170.2	181.3	192.3	200.0
85°	59.8	70.3	80.8	91.3	101.8	112.8	124.0	135.3	146.5	157.8	165.3
87.5°	33.4	43.8	54.1	64.4	74.7	85.3	96.6	107.6	118.7	129.8	137.0
90°	18.3	28.9	39.8	50.1	60.4	70.8	83.3	94.1	105.4	116.8	123.8
92.5°	20.4	30.9	42.6	55.2	68.4	84.3	109.7	142.8	175.4	197.5	189.4
95°	24.1	33.3	44.4	56.4	71.7	93.0	128.3	185.9	265.0	332.9	346.3
97.5°	30.3	37.5	47.0	57.6	70.7	89.4	119.0	168.1	246.8	338.4	401.0
100°	34.3	40.8	49.3	59.3	71.3	88.6	115.4	157.8	226.3	317.3	397.9
102.5°	38.9	45.1	52.6	61.6	72.5	88.9	113.8	152.1	211.7	293.3	375.9
105°	43.9	49.7	56.2	64.7	74.8	90.3	113.4	146.6	196.2	263.4	337.4
107.5°	51.6	56.3	61.8	69.6	78.7	93.4	114.8	145.4	188.6	243.9	305.4
110°	56.0	60.1	65.0	72.0	80.7	94.6	116.0	145.0	185.5	236.0	288.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	60.2	63.8	68.6	74.9	83.2	96.8	117.3	144.7	182.7	229.4	276.9
115°	66.1	69.2	73.5	78.7	86.3	99.3	118.9	144.1	179.0	221.5	263.3
117.5°	73.5	75.7	78.8	83.3	89.8	102.3	120.7	144.1	175.5	214.5	253.3
120°	77.7	79.0	81.8	85.7	91.3	103.4	121.6	143.9	173.3	210.0	247.0
122.5°	82.3	83.0	85.2	88.3	93.8	105.1	122.9	143.9	171.3	205.2	240.6
125°	87.2	88.1	89.6	92.5	97.8	108.8	125.5	145.0	169.3	199.3	231.7
127.5°	92.4	93.0	94.8	98.2	103.7	114.1	128.9	145.9	166.6	191.8	220.6
130°	94.4	95.3	97.4	101.5	106.7	116.9	130.7	145.9	164.7	187.1	213.5
132.5°	97.4	98.1	100.9	104.7	110.4	119.8	132.7	147.0	163.5	183.3	207.4
135°	100.5	101.7	104.5	109.4	115.5	123.8	135.1	147.2	160.9	176.4	197.1
137.5°	104.7	105.6	108.5	112.9	119.0	126.4	136.1	146.7	158.0	171.1	188.6
140°	107.7	108.4	111.3	115.9	121.7	128.7	137.5	147.0	157.0	168.2	183.8
142.5°	110.1	110.9	113.7	118.4	124.2	130.7	139.0	147.3	156.5	166.4	180.3
145°	114.4	115.0	117.6	121.4	126.6	132.8	140.3	148.1	156.5	165.4	176.1
147.5°	119.5	119.5	121.8	125.7	130.0	135.6	142.6	149.4	156.8	164.4	172.7
150°	122.7	122.8	124.8	128.0	132.1	137.5	143.8	150.1	156.8	163.6	170.9
152.5°	124.8	124.8	127.1	130.3	134.0	139.1	144.7	150.6	156.3	162.5	169.0
155°	128.8	129.1	130.9	133.7	136.9	141.2	146.1	151.0	155.6	160.8	166.2
157.5°	132.9	132.9	134.5	136.7	139.5	142.9	147.1	151.0	154.8	159.0	163.5
160°	135.4	135.4	136.6	138.6	140.9	144.1	147.6	151.0	154.2	157.6	161.3
162.5°	137.7	137.5	138.4	140.2	142.3	144.8	148.0	151.0	153.4	156.2	159.6
165°	140.3	140.3	140.9	142.4	143.8	145.5	148.1	150.4	152.1	154.2	156.5
167.5°	142.9	142.6	142.9	144.0	144.8	146.2	148.1	149.7	150.7	152.1	153.7
170°	144.1	143.8	144.1	145.0	145.5	146.3	147.8	149.3	149.9	150.7	151.9
172.5°	145.2	145.0	145.0	145.6	145.9	146.6	147.6	148.8	149.0	149.3	150.3
175°	146.3	146.1	146.1	146.3	146.7	146.7	147.2	148.1	147.8	147.8	148.4
177.5°	146.9	146.7	146.4	146.7	146.7	146.7	146.9	147.3	146.9	146.9	147.2
180°	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1003.1	1004.5	1005.9	1006.5	1006.3	1006.1	1005.9	1005.8
5°	1000.5	1002.5	1004.5	1005.3	1005.1	1004.9	1004.6	1004.4
7.5°	995.2	997.4	999.6	1000.6	1000.4	1000.1	999.9	999.6
10°	989.7	992.0	994.3	995.2	995.0	994.7	994.5	994.3
12.5°	982.1	984.1	986.2	987.2	987.2	987.1	987.1	987.0
15°	968.3	970.5	972.8	973.8	973.5	973.3	973.1	972.8
17.5°	951.5	953.8	956.1	957.2	956.9	956.8	956.5	956.3
20°	938.3	940.9	943.4	944.6	944.6	944.6	944.6	944.6
22.5°	923.0	925.5	928.1	929.5	929.9	930.3	930.7	931.1
25°	899.4	902.1	904.9	906.4	906.7	906.9	907.2	907.4
27.5°	872.9	875.4	878.0	879.4	879.7	880.0	880.3	880.6
30°	854.4	857.0	859.8	861.4	861.9	862.4	863.0	863.5
32.5°	835.3	838.5	841.6	843.4	843.9	844.4	844.9	845.5
35°	805.1	808.6	812.1	814.2	815.0	815.7	816.5	817.3
37.5°	773.6	777.2	780.7	782.9	783.7	784.6	785.3	786.1
40°	751.5	755.2	759.0	761.4	762.4	763.4	764.4	765.4
42.5°	729.8	733.9	738.1	740.5	741.4	742.2	743.0	743.7
45°	696.1	700.4	704.7	707.4	708.7	709.9	711.2	712.4
47.5°	660.6	665.0	669.4	672.4	673.8	675.4	676.9	678.4
50°	635.6	640.7	645.6	648.9	650.4	651.9	653.4	654.9
52.5°	610.4	615.4	620.4	623.6	625.2	626.6	628.2	629.7
55°	572.5	577.6	582.5	585.8	587.3	588.8	590.3	591.8
57.5°	532.7	538.7	544.6	548.3	549.7	551.1	552.5	553.9
60°	505.2	511.0	516.7	520.7	522.7	524.6	526.7	528.6
62.5°	478.2	484.0	489.8	493.6	495.6	497.6	499.6	501.7
65°	436.3	442.6	448.9	453.1	455.0	457.1	459.0	461.1
67.5°	395.3	401.7	408.1	412.2	414.2	416.1	418.1	420.0
70°	366.3	373.1	379.8	384.2	385.9	387.7	389.4	391.2
72.5°	338.9	345.4	352.0	356.3	358.2	360.2	362.2	364.1
75°	296.9	303.9	311.0	315.6	317.9	320.2	322.4	324.7
77.5°	258.0	265.1	272.1	277.0	279.3	281.8	284.1	286.6
80°	232.6	240.1	247.6	252.3	254.4	256.4	258.4	260.4
82.5°	207.7	215.5	223.1	228.1	230.3	232.5	234.7	236.9
85°	172.8	180.3	187.8	192.9	195.4	197.9	200.4	202.9
87.5°	144.3	151.6	158.9	163.7	165.9	168.2	170.3	172.5
90°	131.3	138.8	146.4	151.1	153.4	155.6	157.4	159.4
92.5°	176.9	170.0	168.4	167.1	165.7	166.2	167.1	169.2
95°	325.1	287.2	255.4	232.0	220.0	213.4	210.4	209.0
97.5°	419.6	409.6	388.0	362.3	343.7	328.6	322.0	318.2
100°	446.7	459.3	451.8	434.8	411.5	395.7	388.8	388.2
102.5°	440.2	475.3	486.0	481.4	467.9	457.1	450.0	450.1
105°	409.7	465.8	500.5	516.5	519.1	518.8	516.7	517.0
107.5°	370.0	429.3	475.6	505.2	521.3	529.7	534.3	536.9
110°	345.8	401.4	448.9	484.5	507.0	521.1	528.2	532.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	326.4	376.0	421.0	456.5	481.8	498.4	507.6	513.9
115°	304.9	345.8	385.1	416.4	440.9	459.9	470.9	475.0
117.5°	290.4	324.9	356.6	383.7	405.1	421.7	433.0	436.8
120°	282.3	314.1	342.1	366.1	384.5	399.2	408.7	413.8
122.5°	275.0	305.8	331.8	353.2	368.8	381.5	389.6	394.6
125°	264.1	293.7	318.3	337.3	350.3	360.1	367.1	370.4
127.5°	251.1	279.2	303.6	321.7	335.0	344.2	350.5	353.9
130°	242.0	269.2	293.3	311.6	324.9	333.6	339.7	343.0
132.5°	233.1	258.8	282.3	300.4	313.5	323.1	329.1	332.2
135°	219.3	242.1	263.6	280.8	293.8	303.4	309.5	312.7
137.5°	207.3	226.8	245.3	260.8	272.8	282.0	287.1	290.4
140°	200.4	217.2	233.4	247.8	259.1	266.7	272.0	275.6
142.5°	194.5	209.4	223.3	235.8	245.7	252.7	257.3	260.0
145°	186.9	198.1	208.3	217.6	225.8	231.7	235.6	238.1
147.5°	180.5	188.5	195.6	202.4	208.6	213.5	216.5	217.8
150°	177.8	184.4	190.2	195.3	200.0	203.7	205.5	205.7
152.5°	175.3	181.0	186.3	190.5	194.4	197.5	198.5	198.9
155°	171.5	176.0	180.3	183.8	186.7	189.0	189.9	189.9
157.5°	167.4	171.2	174.9	177.7	179.8	181.6	182.1	182.1
160°	164.9	168.0	171.1	173.5	175.2	176.9	177.2	177.2
162.5°	162.3	165.0	167.5	169.6	170.8	172.5	172.8	172.6
165°	158.7	160.5	162.5	164.0	165.1	166.2	166.0	165.7
167.5°	155.4	156.7	158.3	159.1	159.7	160.5	160.5	160.2
170°	153.3	154.2	155.3	156.2	156.8	157.0	156.8	156.8
172.5°	151.5	152.1	152.8	153.4	153.8	154.0	153.8	153.3
175°	149.0	149.3	149.9	149.9	149.9	150.4	149.9	149.3
177.5°	147.3	147.6	147.6	147.8	147.6	147.8	147.3	146.9
180°	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7

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