

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: P332495-830

Luminaire Tested: **S124DIP-S350D365U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332495-830
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-S350D365U830-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 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: 2592.2 lumens
Efficiency: N/A
Efficacy: 127.7 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

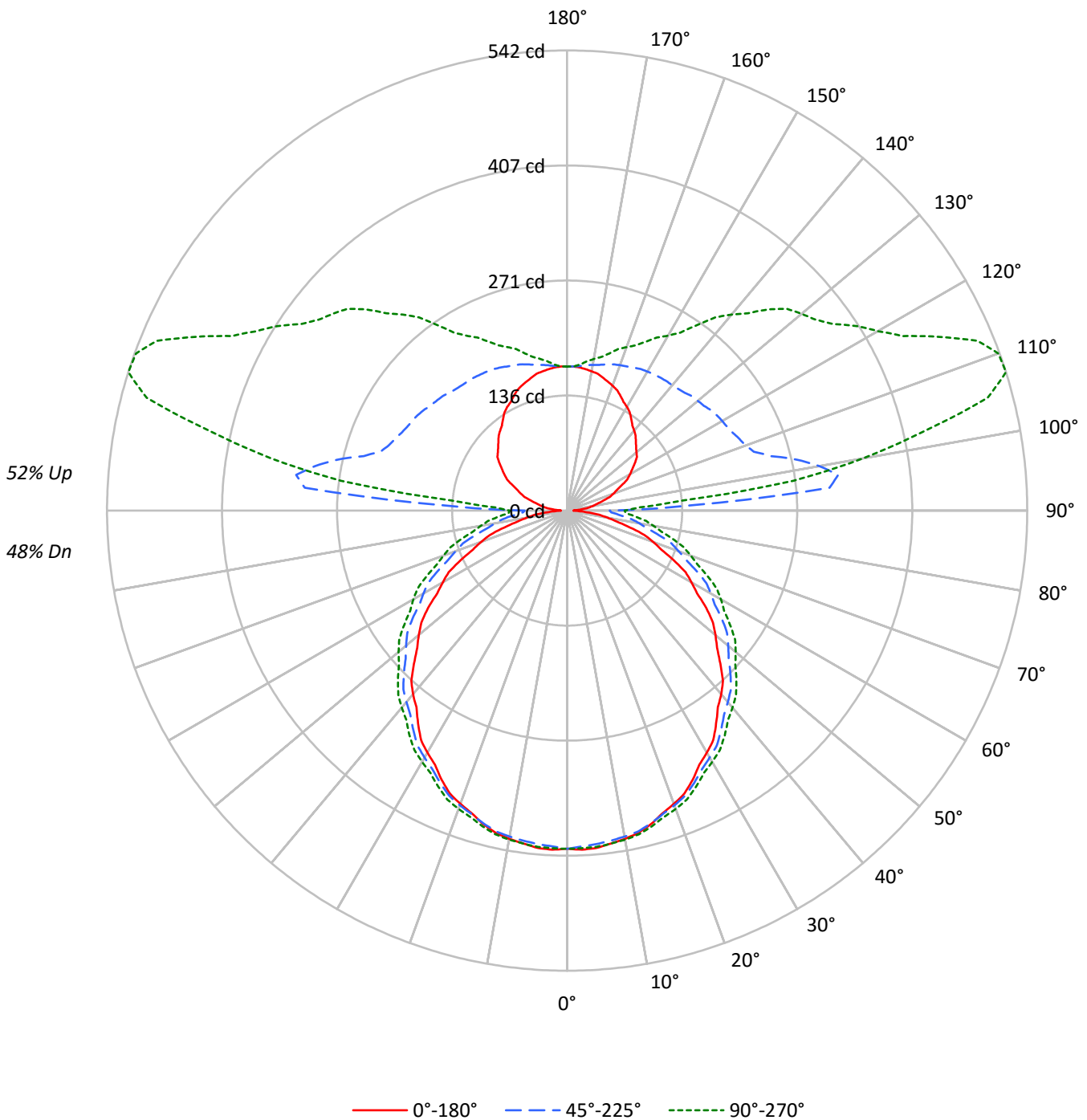
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	82	82	82	68	68	68	55	55	55	48
1	96	92	87	84	89	84	81	77	71	68	66	58	56	55	47	45	44	39
2	87	79	73	67	80	73	68	63	61	57	54	51	48	45	41	38	36	32
3	79	70	62	56	73	64	57	52	54	49	45	44	41	37	36	33	31	26
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	42	37	32	35	31	27	28	25	22	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	34	29	24	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	15	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°	3216	3216	3216
5°	3227	3143	3152
10°	3207	3092	3090
15°	3177	3032	3016
20°	3134	2967	2944
25°	3086	2893	2865
30°	3032	2819	2784
35°	2972	2744	2713
40°	2925	2674	2639
45°	2853	2607	2575
50°	2794	2532	2508
55°	2732	2460	2429
60°	2635	2369	2357
65°	2529	2272	2269
70°	2400	2161	2166
75°	2220	2037	2074
80°	2021	1919	1981
85°	1773	1815	1928



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	1.5
10°-20°	108.1	4.2
20°-30°	163.4	6.3
30°-40°	197.8	7.6
40°-50°	209.1	8.1
50°-60°	196.8	7.6
60°-70°	163.2	6.3
70°-80°	114.7	4.4
80°-90°	65.8	2.5
90°-100°	161.0	6.2
100°-110°	283.4	10.9
110°-120°	247.4	9.5
120°-130°	202.8	7.8
130°-140°	164.8	6.4
140°-150°	123.3	4.8
150°-160°	86.0	3.3
160°-170°	50.6	2.0
170°-180°	16.5	0.6
0°-30°	309.3	11.9
0°-40°	507.0	19.6
0°-60°	912.9	35.2
0°-90°	1256.5	48.5
90°-120°	691.8	26.7
90°-150°	1182.7	45.6
90°-180°	1336.0	51.5
0°-180°	2592.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	399	397	394	398	398	38
15°	382	383	381	385	385	108
25°	350	352	354	358	359	161
35°	306	311	316	322	324	192
45°	255	264	272	279	282	197
55°	200	210	223	231	234	178
65°	138	153	168	178	182	137
75°	77	93	112	124	128	82
85°	24	42	62	75	80	25
90°	7	28	50	63	68	5
95°	17	55	310	185	136	17
105°	43	70	248	511	513	46
115°	71	93	216	405	484	71
125°	97	116	206	339	383	87
135°	114	136	196	294	335	89
145°	131	150	191	241	267	82
155°	149	161	186	210	220	69
165°	162	167	178	189	192	46
175°	169	170	171	173	173	16
180°	170	170	170	170	170	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	399.8	399.5	399.4	399.1	398.9	398.4	397.8	397.2	396.5	395.9	396.4
5°	398.9	398.5	398.2	397.9	397.7	397.2	396.4	395.8	395.1	394.4	395.2
7.5°	395.5	395.3	395.1	394.9	394.7	394.4	393.8	393.2	392.7	392.1	392.9
10°	392.6	392.5	392.4	392.3	392.2	391.9	391.4	390.9	390.4	389.9	390.8
12.5°	388.7	388.6	388.6	388.6	388.6	388.4	388.0	387.8	387.4	387.1	387.9
15°	382.3	382.5	382.6	382.7	382.8	382.7	382.3	382.0	381.7	381.4	382.3
17.5°	373.7	374.0	374.3	374.6	374.8	375.0	374.9	374.8	374.8	374.8	375.7
20°	367.6	367.9	368.3	368.5	368.8	369.0	369.1	369.2	369.3	369.4	370.4
22.5°	360.8	361.2	361.6	361.9	362.3	362.6	362.8	363.0	363.2	363.4	364.3
25°	349.8	350.3	351.0	351.6	352.1	352.6	352.9	353.2	353.5	353.8	354.9
27.5°	337.4	338.4	339.2	340.1	340.9	341.6	342.0	342.5	343.0	343.5	344.4
30°	329.2	330.1	330.8	331.6	332.4	333.2	333.8	334.5	335.3	335.9	337.1
32.5°	320.4	321.3	322.3	323.2	324.1	325.0	325.7	326.5	327.3	328.1	329.3
35°	306.0	307.3	308.4	309.6	310.9	311.9	312.9	313.9	314.9	315.8	317.3
37.5°	291.7	293.0	294.5	295.8	297.2	298.4	299.7	301.0	302.2	303.4	304.8
40°	282.4	283.7	285.0	286.3	287.6	288.9	290.3	291.7	293.0	294.5	296.0
42.5°	271.7	273.1	274.6	276.1	277.5	279.0	280.7	282.3	283.9	285.5	287.2
45°	255.1	257.0	258.9	260.8	262.7	264.6	266.5	268.3	270.2	272.1	273.8
47.5°	239.4	241.4	243.3	245.2	247.1	249.2	251.4	253.6	255.8	258.0	259.7
50°	228.0	230.2	232.3	234.5	236.7	238.8	241.1	243.3	245.4	247.6	249.6
52.5°	216.6	218.8	220.9	223.1	225.3	227.6	230.1	232.6	235.1	237.6	239.6
55°	199.9	202.0	204.1	206.1	208.2	210.8	213.7	216.7	219.6	222.6	224.6
57.5°	181.3	183.8	186.3	189.0	191.5	194.3	197.3	200.2	203.1	206.1	208.5
60°	169.1	171.6	174.3	176.8	179.4	182.3	185.6	188.9	192.1	195.4	197.7
62.5°	157.3	160.1	163.0	165.8	168.5	171.6	174.8	178.1	181.4	184.7	187.0
65°	138.3	141.5	144.7	147.8	151.0	154.3	157.6	161.0	164.4	167.8	170.2
67.5°	120.0	123.4	126.8	130.2	133.5	137.0	140.6	144.2	147.8	151.4	153.9
70°	107.5	110.8	114.2	117.6	121.0	124.6	128.4	132.1	135.9	139.7	142.3
72.5°	95.4	98.9	102.3	105.8	109.1	112.9	116.9	120.9	124.9	128.9	131.5
75°	76.7	80.4	84.1	87.8	91.4	95.3	99.5	103.7	107.8	112.0	114.8
77.5°	59.4	63.2	67.1	71.0	74.8	79.0	83.3	87.8	92.1	96.4	99.2
80°	48.6	52.6	56.6	60.5	64.5	68.6	73.0	77.4	81.7	86.1	89.1
82.5°	37.9	42.0	46.2	50.3	54.4	58.6	63.1	67.4	71.7	76.2	79.2
85°	23.7	27.8	32.0	36.1	40.3	44.6	49.1	53.5	58.0	62.5	65.4
87.5°	13.3	17.4	21.7	25.8	29.9	34.1	38.8	43.2	47.7	52.1	55.0
90°	7.4	12.1	17.1	21.4	25.6	29.8	36.0	40.3	45.2	50.1	52.7
92.5°	10.6	15.8	22.6	30.3	38.6	49.5	70.7	100.8	130.3	147.7	132.8
95°	16.8	21.0	27.7	35.3	46.6	64.2	97.3	155.9	239.6	310.3	320.7
97.5°	25.0	27.8	33.5	40.3	50.0	65.1	91.4	140.6	223.8	322.0	389.4
100°	30.3	32.8	37.7	44.3	53.2	67.1	90.6	132.1	204.0	301.7	389.6
102.5°	35.5	38.4	42.7	48.6	57.0	70.1	91.7	128.7	190.2	277.3	367.9
105°	43.0	46.0	49.6	55.6	63.6	76.1	95.8	127.1	177.4	248.0	328.8
107.5°	52.1	54.4	57.7	63.5	70.9	83.0	101.1	129.8	173.1	230.5	296.8
110°	57.9	59.9	63.0	68.3	75.8	87.2	105.3	132.1	172.2	223.9	280.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	63.3	65.2	68.4	73.4	80.6	91.9	109.3	134.6	172.2	219.8	270.4
115°	71.3	73.2	76.4	80.7	87.8	98.9	115.4	138.6	172.7	215.8	260.0
117.5°	80.0	81.4	84.1	88.3	94.7	105.8	121.4	142.8	173.5	212.8	253.7
120°	85.5	86.4	89.1	93.0	99.1	109.9	125.5	145.7	174.2	211.0	250.0
122.5°	90.9	91.5	94.0	97.5	103.7	114.1	129.5	148.5	174.9	209.0	246.1
125°	97.4	98.6	100.6	104.1	110.3	120.8	135.3	153.1	176.5	206.3	240.3
127.5°	103.5	104.4	106.8	110.8	117.3	127.6	141.2	157.1	177.3	202.9	232.7
130°	106.6	107.8	110.4	115.3	121.5	132.0	144.9	159.4	178.0	201.0	228.0
132.5°	110.1	111.0	114.4	119.0	125.8	135.5	148.1	162.1	178.8	199.3	223.9
135°	114.5	115.8	119.1	124.8	131.8	140.8	152.5	165.2	179.6	196.2	217.2
137.5°	119.3	120.6	124.0	129.4	136.6	145.0	155.5	167.0	179.6	194.1	211.5
140°	122.8	123.8	127.2	132.8	139.8	147.7	157.8	168.6	180.0	192.7	208.4
142.5°	126.2	127.1	130.5	135.9	142.6	150.3	159.9	169.8	180.5	192.1	205.9
145°	131.4	132.2	135.5	140.1	146.3	153.5	162.2	171.3	180.9	191.2	202.5
147.5°	137.3	137.5	140.3	145.1	150.2	156.7	164.9	172.8	181.3	190.0	199.4
150°	141.0	141.3	143.8	147.7	152.6	158.9	166.3	173.5	181.3	189.2	197.6
152.5°	144.1	144.2	146.8	150.5	155.0	160.8	167.3	174.1	180.7	187.8	195.4
155°	148.9	149.2	151.3	154.6	158.3	163.2	168.9	174.6	179.9	185.9	192.2
157.5°	153.6	153.6	155.5	158.1	161.3	165.2	170.0	174.6	179.0	183.8	189.0
160°	156.6	156.6	157.9	160.2	162.9	166.5	170.6	174.6	178.2	182.2	186.5
162.5°	159.2	159.0	160.0	162.1	164.5	167.4	171.1	174.6	177.4	180.6	184.5
165°	162.2	162.2	162.9	164.6	166.3	168.2	171.3	173.9	175.9	178.2	180.9
167.5°	165.2	164.9	165.2	166.5	167.4	169.0	171.2	173.1	174.3	175.8	177.7
170°	166.5	166.3	166.5	167.6	168.2	169.2	170.9	172.6	173.2	174.2	175.6
172.5°	167.9	167.6	167.6	168.3	168.7	169.5	170.6	172.0	172.2	172.6	173.7
175°	169.2	168.9	168.9	169.2	169.6	169.6	170.2	171.3	170.9	170.9	171.5
177.5°	169.8	169.6	169.3	169.6	169.6	169.6	169.8	170.3	169.8	169.8	170.1
180°	169.6	169.6	169.6	169.6	169.6	169.6	169.6	169.6	169.6	169.6	169.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	397.0	397.6	398.1	398.3	398.3	398.2	398.1	398.0
5°	396.0	396.7	397.6	397.9	397.8	397.7	397.6	397.5
7.5°	393.9	394.7	395.7	396.1	396.0	395.9	395.8	395.7
10°	391.7	392.6	393.5	393.9	393.8	393.7	393.6	393.5
12.5°	388.7	389.6	390.3	390.7	390.7	390.7	390.7	390.6
15°	383.2	384.1	385.0	385.4	385.3	385.2	385.1	385.0
17.5°	376.5	377.5	378.4	378.8	378.7	378.6	378.6	378.5
20°	371.4	372.4	373.3	373.9	373.9	373.9	373.9	373.9
22.5°	365.3	366.3	367.3	367.9	368.1	368.2	368.3	368.5
25°	356.0	357.0	358.2	358.7	358.8	358.9	359.0	359.1
27.5°	345.4	346.5	347.5	348.1	348.2	348.3	348.4	348.6
30°	338.1	339.2	340.3	340.9	341.1	341.4	341.6	341.8
32.5°	330.5	331.9	333.1	333.8	334.0	334.2	334.4	334.6
35°	318.7	320.0	321.4	322.3	322.5	322.8	323.2	323.5
37.5°	306.2	307.6	309.0	309.9	310.2	310.5	310.9	311.1
40°	297.5	298.9	300.4	301.3	301.7	302.2	302.6	302.9
42.5°	288.8	290.5	292.1	293.1	293.4	293.7	294.1	294.4
45°	275.5	277.2	278.9	279.9	280.5	281.0	281.4	281.9
47.5°	261.5	263.2	264.9	266.1	266.7	267.3	267.9	268.5
50°	251.6	253.5	255.5	256.8	257.4	258.0	258.6	259.2
52.5°	241.6	243.6	245.5	246.9	247.4	248.0	248.6	249.2
55°	226.6	228.6	230.5	231.9	232.4	233.0	233.7	234.2
57.5°	210.8	213.2	215.6	217.0	217.5	218.1	218.7	219.2
60°	200.0	202.3	204.5	206.0	206.9	207.6	208.5	209.2
62.5°	189.3	191.5	193.8	195.4	196.1	196.9	197.7	198.5
65°	172.7	175.2	177.7	179.3	180.1	180.9	181.7	182.5
67.5°	156.5	159.0	161.5	163.2	163.9	164.7	165.4	166.3
70°	145.0	147.7	150.3	152.0	152.7	153.4	154.1	154.8
72.5°	134.1	136.8	139.3	141.0	141.8	142.5	143.4	144.1
75°	117.5	120.3	123.1	124.9	125.8	126.7	127.6	128.5
77.5°	102.1	104.9	107.7	109.6	110.6	111.5	112.4	113.4
80°	92.1	95.0	98.0	99.9	100.7	101.5	102.3	103.0
82.5°	82.2	85.3	88.3	90.3	91.1	92.0	92.9	93.8
85°	68.4	71.4	74.4	76.3	77.3	78.3	79.3	80.3
87.5°	57.9	60.8	63.8	65.7	66.6	67.6	68.3	69.2
90°	55.9	59.1	62.3	64.2	65.3	66.4	66.9	67.7
92.5°	113.0	99.6	92.4	87.6	84.4	83.4	83.0	83.8
95°	291.0	242.0	200.1	169.6	154.1	144.7	139.6	136.2
97.5°	406.0	389.4	359.4	326.3	303.2	284.1	274.9	268.8
100°	441.0	450.3	436.7	413.8	385.4	365.8	356.6	354.6
102.5°	437.2	472.9	480.1	471.6	454.6	440.6	430.8	429.5
105°	407.5	467.6	503.0	518.4	519.8	517.9	514.1	512.8
107.5°	366.7	430.6	479.5	510.8	527.9	536.2	540.3	541.9
110°	342.1	402.0	452.6	490.8	515.3	530.0	536.8	540.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	323.4	376.5	424.4	462.5	490.2	507.9	517.1	522.7
115°	303.8	346.9	388.1	421.5	448.6	469.2	480.6	484.0
117.5°	292.7	328.6	361.4	389.8	413.1	430.7	442.2	445.2
120°	287.0	319.9	348.6	373.6	393.4	408.9	418.3	422.7
122.5°	282.0	313.9	340.2	362.2	379.0	392.2	400.2	404.6
125°	274.1	304.6	329.5	349.0	363.0	373.2	380.1	382.8
127.5°	264.6	293.7	318.4	337.1	351.1	360.3	366.4	369.1
130°	257.4	285.6	310.0	328.9	343.1	352.0	357.9	360.5
132.5°	250.2	276.6	300.5	319.3	333.3	343.3	348.9	351.6
135°	239.7	263.0	284.8	302.6	316.5	326.4	332.3	335.0
137.5°	230.4	250.2	268.7	284.7	297.7	307.4	312.3	315.2
140°	225.0	242.0	258.3	273.1	285.2	293.0	298.2	301.4
142.5°	220.3	235.2	249.1	262.0	272.8	280.0	284.6	286.8
145°	213.7	225.6	236.2	246.1	254.8	260.8	264.6	266.6
147.5°	208.4	217.4	225.6	233.0	239.5	244.7	247.5	248.5
150°	205.6	213.2	219.9	225.8	231.2	235.5	237.5	237.8
152.5°	202.6	209.2	215.4	220.3	224.8	228.3	229.5	229.9
155°	198.2	203.5	208.5	212.5	215.8	218.5	219.5	219.5
157.5°	193.5	197.9	202.2	205.4	207.8	209.9	210.5	210.5
160°	190.6	194.2	197.8	200.6	202.6	204.5	204.9	204.9
162.5°	187.7	190.8	193.6	196.0	197.5	199.4	199.8	199.5
165°	183.5	185.6	187.8	189.5	190.9	192.2	191.9	191.5
167.5°	179.6	181.2	183.0	184.0	184.6	185.6	185.5	185.2
170°	177.2	178.2	179.6	180.6	181.3	181.5	181.3	181.3
172.5°	175.1	175.8	176.6	177.4	177.8	178.0	177.8	177.2
175°	172.2	172.6	173.2	173.2	173.2	173.9	173.2	172.6
177.5°	170.3	170.6	170.6	170.9	170.6	170.9	170.3	169.8
180°	169.6	169.6	169.6	169.6	169.6	169.6	169.6	169.6

(END OF REPORT)