

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: P332504-927

Luminaire Tested: **S124DIP-S350D590U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332504-927
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-S350D590U927-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2815.6 lumens
Efficiency: N/A
Efficacy: 110.0 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: Semi-Indirect

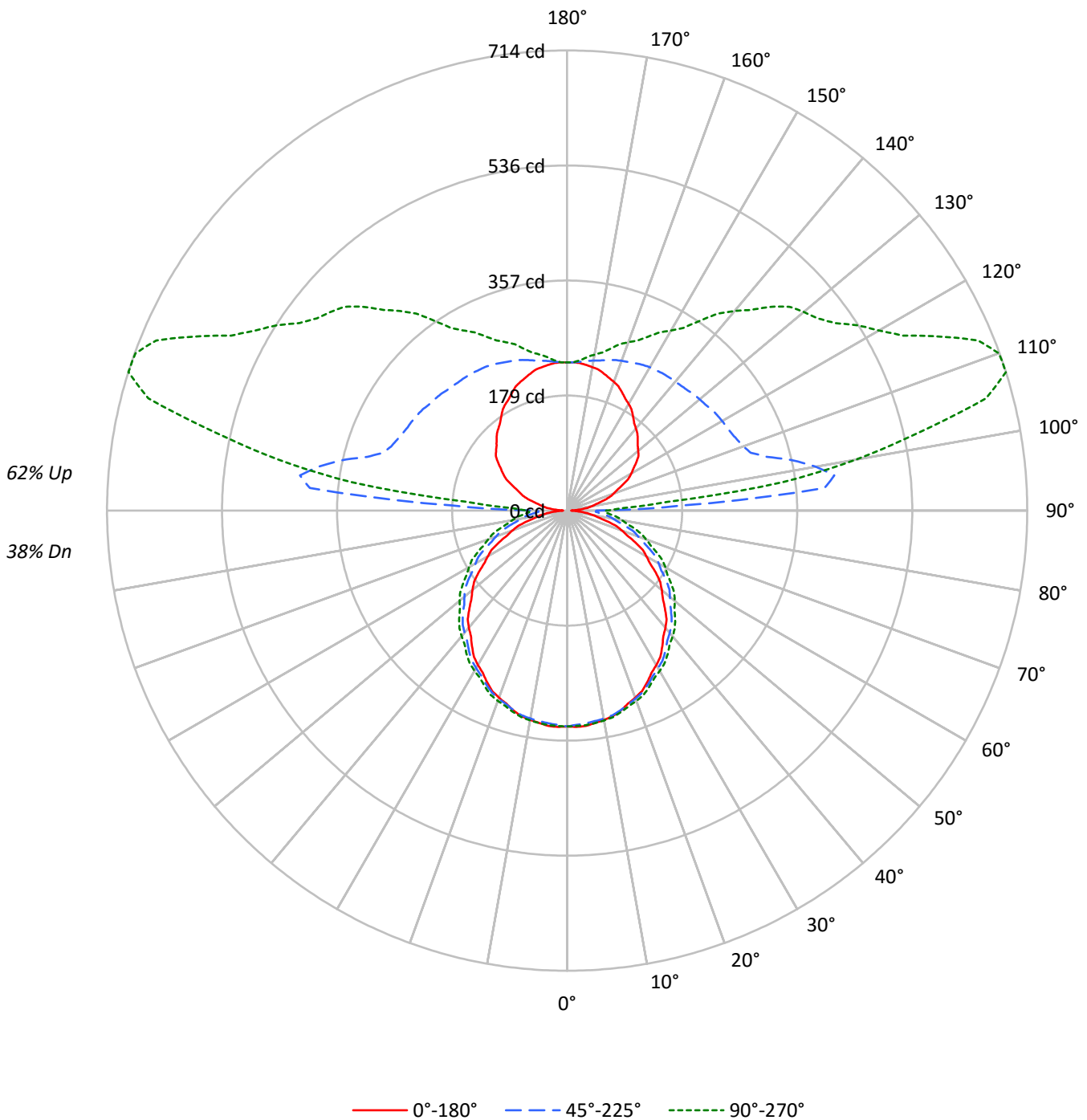
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	38
1	94	90	86	82	85	81	78	75	66	63	61	51	50	48	38	37	36	30
2	85	78	71	66	77	71	65	61	57	53	50	45	42	40	33	31	30	25
3	78	68	61	55	70	62	55	50	50	45	42	39	36	33	29	27	25	20
4	71	60	52	46	64	55	48	42	44	39	35	35	31	28	26	23	21	17
5	65	53	45	39	59	48	41	36	39	34	30	31	27	24	23	21	18	15
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	25	21	18	19	16	14	11
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	17	15	13	10
9	47	35	28	23	43	32	26	21	27	21	18	21	17	15	16	13	11	9
10	44	32	25	20	40	30	23	19	24	19	16	19	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2704	2704	2704
5°	2712	2641	2650
10°	2694	2599	2596
15°	2670	2549	2535
20°	2635	2494	2475
25°	2594	2432	2408
30°	2549	2370	2340
35°	2498	2307	2280
40°	2458	2247	2218
45°	2398	2191	2164
50°	2348	2128	2108
55°	2296	2068	2042
60°	2214	1991	1982
65°	2125	1909	1908
70°	2018	1816	1820
75°	1867	1712	1743
80°	1701	1613	1665
85°	1489	1525	1621



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.7	1.1
10°-20°	90.8	3.2
20°-30°	137.4	4.9
30°-40°	166.2	5.9
40°-50°	175.7	6.2
50°-60°	165.4	5.9
60°-70°	137.2	4.9
70°-80°	96.4	3.4
80°-90°	55.7	2.0
90°-100°	198.5	7.0
100°-110°	369.7	13.1
110°-120°	325.8	11.6
120°-130°	269.6	9.6
130°-140°	221.1	7.9
140°-150°	166.7	5.9
150°-160°	116.6	4.1
160°-170°	68.6	2.4
170°-180°	22.3	0.8
0°-30°	259.9	9.2
0°-40°	426.1	15.1
0°-60°	767.2	27.2
0°-90°	1056.6	37.5
90°-120°	894.0	31.8
90°-150°	1551.5	55.1
90°-180°	1759.0	62.5
0°-180°	2815.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	335	334	331	334	334	32
15°	321	322	321	324	324	90
25°	294	296	297	301	302	135
35°	257	262	266	270	272	161
45°	214	222	229	235	237	166
55°	168	176	187	194	197	150
65°	116	128	141	150	153	115
75°	64	78	94	104	108	69
85°	20	36	52	63	68	21
90°	6	25	45	57	60	5
95°	20	64	401	225	156	21
105°	56	88	321	672	673	60
115°	95	123	282	534	639	95
125°	131	156	274	450	507	117
135°	155	184	264	393	447	120
145°	178	203	259	326	359	112
155°	202	218	252	286	298	93
165°	220	227	242	256	260	62
175°	230	230	232	235	234	22
180°	230	230	230	230	230	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	336.0	335.8	335.6	335.4	335.3	334.9	334.4	333.8	333.3	332.7	333.2
5°	335.3	334.9	334.7	334.5	334.2	333.8	333.2	332.6	332.1	331.4	332.2
7.5°	332.4	332.2	332.1	331.9	331.8	331.4	331.0	330.5	330.0	329.5	330.3
10°	329.9	329.9	329.8	329.7	329.6	329.4	329.0	328.5	328.1	327.7	328.4
12.5°	326.7	326.6	326.6	326.6	326.6	326.5	326.1	325.9	325.6	325.3	326.0
15°	321.3	321.5	321.5	321.6	321.7	321.6	321.3	321.1	320.8	320.6	321.3
17.5°	314.1	314.3	314.6	314.8	315.1	315.2	315.1	315.1	315.1	315.0	315.8
20°	309.0	309.2	309.5	309.7	310.0	310.1	310.2	310.3	310.4	310.5	311.3
22.5°	303.2	303.6	303.9	304.2	304.5	304.8	304.9	305.1	305.2	305.4	306.2
25°	294.0	294.5	295.0	295.5	296.0	296.4	296.6	296.8	297.1	297.4	298.3
27.5°	283.6	284.4	285.1	285.8	286.5	287.1	287.5	287.9	288.3	288.7	289.5
30°	276.7	277.4	278.1	278.7	279.4	280.0	280.6	281.1	281.8	282.3	283.3
32.5°	269.3	270.1	270.8	271.6	272.4	273.1	273.8	274.4	275.1	275.8	276.8
35°	257.2	258.3	259.2	260.2	261.3	262.1	263.0	263.8	264.7	265.5	266.6
37.5°	245.2	246.3	247.5	248.6	249.8	250.8	251.9	252.9	254.0	255.0	256.2
40°	237.3	238.4	239.6	240.6	241.7	242.8	244.0	245.2	246.3	247.5	248.7
42.5°	228.4	229.6	230.8	232.0	233.2	234.5	235.9	237.3	238.6	240.0	241.4
45°	214.4	216.0	217.6	219.2	220.8	222.4	223.9	225.5	227.1	228.7	230.1
47.5°	201.2	202.9	204.5	206.1	207.7	209.5	211.3	213.2	215.0	216.8	218.2
50°	191.6	193.5	195.3	197.1	198.9	200.7	202.6	204.5	206.3	208.1	209.8
52.5°	182.0	183.9	185.7	187.5	189.3	191.3	193.4	195.5	197.6	199.7	201.4
55°	168.0	169.8	171.5	173.3	175.0	177.1	179.6	182.1	184.6	187.1	188.8
57.5°	152.3	154.5	156.6	158.8	161.0	163.3	165.8	168.3	170.7	173.3	175.2
60°	142.1	144.3	146.5	148.6	150.8	153.2	156.0	158.8	161.4	164.2	166.1
62.5°	132.2	134.6	137.0	139.3	141.6	144.3	146.9	149.7	152.5	155.3	157.2
65°	116.2	118.9	121.6	124.2	126.9	129.7	132.5	135.3	138.2	141.0	143.1
67.5°	100.8	103.7	106.5	109.4	112.2	115.1	118.2	121.2	124.2	127.2	129.4
70°	90.4	93.2	96.0	98.9	101.7	104.7	107.9	111.1	114.2	117.4	119.6
72.5°	80.2	83.1	86.0	88.9	91.7	94.9	98.2	101.6	105.0	108.4	110.5
75°	64.5	67.6	70.7	73.8	76.8	80.1	83.7	87.1	90.6	94.1	96.5
77.5°	49.9	53.2	56.4	59.7	62.9	66.4	70.0	73.8	77.4	81.0	83.4
80°	40.9	44.2	47.5	50.9	54.2	57.7	61.4	65.0	68.7	72.4	74.9
82.5°	31.8	35.3	38.8	42.3	45.7	49.3	53.0	56.6	60.3	64.0	66.5
85°	19.9	23.4	26.9	30.3	33.9	37.5	41.3	45.0	48.7	52.5	55.0
87.5°	11.2	14.7	18.5	21.9	25.4	28.9	33.1	36.8	40.6	44.4	46.7
90°	6.4	10.7	15.4	19.2	23.0	26.4	32.7	36.3	40.8	45.2	47.2
92.5°	10.9	16.2	23.4	31.9	41.6	54.3	80.8	119.5	157.2	178.6	157.1
95°	19.8	23.9	31.1	39.8	53.4	75.4	118.2	195.7	307.1	400.9	413.6
97.5°	31.2	33.5	39.8	47.6	59.3	78.0	111.7	176.3	287.0	418.2	508.3
100°	38.5	40.6	45.9	53.6	64.3	81.4	111.4	165.7	261.1	391.8	509.8
102.5°	45.7	48.3	53.0	60.0	70.1	86.4	113.7	161.8	243.4	359.6	481.1
105°	56.2	59.3	63.2	70.3	80.1	95.5	120.3	160.9	227.3	321.2	429.4
107.5°	68.7	70.9	74.5	81.7	90.9	105.9	128.7	165.8	222.8	298.8	387.5
110°	76.7	78.7	82.1	88.7	98.1	112.3	135.1	169.6	222.3	290.7	366.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	84.3	86.3	89.9	96.0	105.2	119.3	141.2	173.8	223.1	286.0	353.5
115°	95.4	97.4	101.4	106.6	116.0	129.8	150.6	180.4	225.1	282.0	340.7
117.5°	107.2	108.9	112.2	117.6	126.1	140.2	159.9	187.3	227.4	279.2	333.7
120°	114.9	116.0	119.4	124.6	132.5	146.6	166.1	192.0	229.3	277.8	329.6
122.5°	122.1	123.0	126.3	130.9	139.3	152.8	172.3	196.6	231.2	275.9	325.2
125°	131.2	132.9	135.5	140.5	148.9	162.6	180.9	203.8	234.3	273.5	318.5
127.5°	139.5	140.9	144.1	149.6	158.5	172.1	189.3	210.0	236.5	270.3	309.7
130°	143.9	145.7	149.2	155.9	164.4	178.1	194.8	213.7	238.1	268.4	304.3
132.5°	148.6	150.0	154.6	161.0	170.2	183.1	199.5	217.8	239.7	266.8	299.4
135°	154.9	156.7	161.2	168.9	178.3	190.4	205.9	222.8	241.9	264.1	291.7
137.5°	161.4	163.1	167.9	175.2	185.0	196.3	210.5	225.9	242.6	262.3	285.1
140°	166.1	167.4	172.3	179.9	189.3	200.2	213.8	228.3	243.8	261.0	281.5
142.5°	170.9	172.2	176.8	184.1	193.3	203.7	216.8	230.2	244.8	260.5	278.7
145°	178.0	179.3	183.7	189.9	198.4	208.3	220.1	232.3	245.4	259.4	274.3
147.5°	186.0	186.4	190.3	196.7	203.7	212.7	223.7	234.3	245.8	257.8	270.6
150°	191.1	191.5	195.0	200.3	207.0	215.6	225.5	235.4	245.8	256.7	268.0
152.5°	195.5	195.5	199.2	204.2	210.2	218.1	227.0	236.1	245.1	254.8	265.1
155°	202.0	202.5	205.2	209.7	214.7	221.4	229.1	236.8	244.0	252.2	260.7
157.5°	208.4	208.4	211.0	214.4	218.8	224.1	230.7	236.8	242.9	249.4	256.4
160°	212.4	212.4	214.2	217.4	220.9	225.9	231.4	236.8	241.8	247.2	253.1
162.5°	216.0	215.6	217.1	219.9	223.2	227.0	232.1	236.8	240.7	245.0	250.2
165°	220.1	220.1	220.9	223.2	225.5	228.2	232.3	235.9	238.6	241.8	245.4
167.5°	224.1	223.7	224.1	225.9	227.1	229.2	232.2	234.8	236.5	238.5	241.1
170°	225.9	225.5	225.9	227.3	228.2	229.6	231.8	234.1	235.0	236.3	238.1
172.5°	227.8	227.3	227.4	228.4	228.9	229.9	231.5	233.4	233.5	234.2	235.6
175°	229.6	229.1	229.1	229.6	230.0	230.0	230.9	232.3	231.8	231.8	232.7
177.5°	230.4	230.0	229.7	230.0	230.0	230.0	230.4	231.1	230.4	230.4	230.8
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	333.7	334.1	334.6	334.8	334.8	334.7	334.6	334.5
5°	332.8	333.4	334.1	334.5	334.4	334.2	334.1	334.1
7.5°	331.1	331.8	332.6	332.9	332.8	332.7	332.6	332.6
10°	329.2	329.9	330.7	331.1	331.0	330.9	330.8	330.7
12.5°	326.7	327.4	328.0	328.4	328.4	328.4	328.4	328.3
15°	322.1	322.8	323.6	323.9	323.8	323.8	323.7	323.6
17.5°	316.5	317.3	318.1	318.4	318.3	318.2	318.2	318.1
20°	312.1	313.0	313.8	314.3	314.3	314.3	314.3	314.3
22.5°	307.0	307.8	308.7	309.2	309.3	309.4	309.6	309.7
25°	299.2	300.1	301.0	301.5	301.6	301.7	301.7	301.8
27.5°	290.3	291.2	292.1	292.6	292.6	292.7	292.8	292.9
30°	284.2	285.1	286.0	286.5	286.7	286.9	287.1	287.2
32.5°	277.8	278.9	280.0	280.6	280.7	280.9	281.1	281.2
35°	267.8	268.9	270.1	270.8	271.1	271.3	271.6	271.9
37.5°	257.4	258.5	259.7	260.5	260.7	260.9	261.3	261.5
40°	250.0	251.2	252.5	253.3	253.6	254.0	254.3	254.6
42.5°	242.7	244.2	245.5	246.4	246.6	246.8	247.2	247.4
45°	231.6	233.0	234.4	235.3	235.8	236.1	236.5	236.9
47.5°	219.8	221.2	222.7	223.6	224.2	224.7	225.1	225.7
50°	211.4	213.1	214.8	215.9	216.3	216.8	217.4	217.9
52.5°	203.0	204.7	206.4	207.5	207.9	208.4	209.0	209.5
55°	190.4	192.1	193.8	194.9	195.4	195.8	196.4	196.9
57.5°	177.2	179.2	181.2	182.4	182.8	183.3	183.8	184.3
60°	168.1	170.0	171.9	173.2	173.9	174.5	175.2	175.9
62.5°	159.1	161.0	162.9	164.2	164.9	165.5	166.2	166.8
65°	145.1	147.3	149.3	150.7	151.4	152.0	152.7	153.4
67.5°	131.5	133.6	135.7	137.1	137.8	138.4	139.0	139.7
70°	121.8	124.1	126.4	127.8	128.3	129.0	129.5	130.1
72.5°	112.7	114.9	117.1	118.5	119.1	119.8	120.5	121.1
75°	98.8	101.1	103.5	105.0	105.8	106.5	107.3	108.0
77.5°	85.8	88.2	90.5	92.1	92.9	93.7	94.5	95.3
80°	77.4	79.9	82.4	84.0	84.6	85.3	86.0	86.6
82.5°	69.1	71.7	74.2	75.9	76.6	77.3	78.1	78.8
85°	57.5	60.0	62.5	64.2	65.0	65.8	66.6	67.5
87.5°	49.3	51.8	54.3	55.8	56.7	57.5	58.1	58.9
90°	50.1	52.9	55.8	57.4	58.5	59.6	59.8	60.5
92.5°	128.8	109.2	97.8	90.3	85.6	83.9	83.0	83.7
95°	372.0	304.2	245.9	203.5	182.1	168.9	161.5	156.4
97.5°	529.4	505.6	463.5	417.8	386.1	359.6	346.7	338.1
100°	578.0	589.3	569.4	537.3	498.6	471.7	458.7	455.7
102.5°	573.9	620.8	629.5	617.0	593.4	574.1	560.5	558.3
105°	535.0	615.3	662.1	682.0	683.6	680.6	675.0	673.0
107.5°	481.2	566.5	631.5	673.2	696.1	707.0	712.1	713.9
110°	448.6	528.7	596.2	647.2	679.9	699.6	708.4	713.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	424.2	495.2	559.0	610.0	647.1	670.7	682.7	690.0
115°	399.1	456.5	511.2	555.8	592.1	619.8	634.8	639.0
117.5°	385.4	433.2	476.5	514.4	545.6	569.0	584.3	587.8
120°	378.7	422.4	460.3	493.5	519.9	540.4	552.9	558.5
122.5°	372.9	415.1	449.7	479.0	501.3	518.9	529.5	535.0
125°	363.5	403.9	436.7	462.6	481.1	494.7	503.8	507.0
127.5°	352.0	390.6	423.2	447.8	466.6	478.8	486.6	489.9
130°	343.3	380.5	412.6	437.6	456.7	468.4	476.2	479.4
132.5°	334.3	369.3	400.8	425.6	444.3	457.6	464.9	468.1
135°	321.5	352.2	381.0	404.6	423.2	436.3	444.0	447.3
137.5°	310.0	336.1	360.5	381.8	399.1	412.0	418.4	422.1
140°	303.4	325.7	347.1	366.9	383.1	393.5	400.2	404.3
142.5°	297.5	317.2	335.6	352.7	367.0	376.6	382.5	385.4
145°	289.3	305.1	319.2	332.3	344.0	352.0	356.8	359.4
147.5°	282.6	294.9	305.8	315.8	324.5	331.3	335.0	336.1
150°	278.8	289.2	298.3	306.4	313.6	319.5	322.2	322.7
152.5°	274.8	283.8	292.1	298.8	304.9	309.7	311.3	311.8
155°	268.9	276.1	282.9	288.3	292.9	296.4	297.8	297.8
157.5°	262.4	268.5	274.2	278.5	282.0	284.7	285.5	285.5
160°	258.5	263.5	268.4	272.0	274.7	277.5	277.9	277.9
162.5°	254.5	258.7	262.6	265.9	267.9	270.6	271.1	270.7
165°	249.0	251.7	254.8	257.1	259.0	260.7	260.3	259.8
167.5°	243.7	245.7	248.3	249.6	250.6	251.7	251.6	251.3
170°	240.4	241.8	243.6	244.9	245.8	246.3	245.8	245.8
172.5°	237.5	238.5	239.6	240.6	241.1	241.6	241.1	240.4
175°	233.6	234.1	235.0	235.0	235.0	235.9	235.0	234.1
177.5°	231.1	231.5	231.5	231.8	231.5	231.8	231.1	230.4
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0

(END OF REPORT)