

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: P331915-935

Luminaire Tested: **S123DIP-S560D365U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331915-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D365U935-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

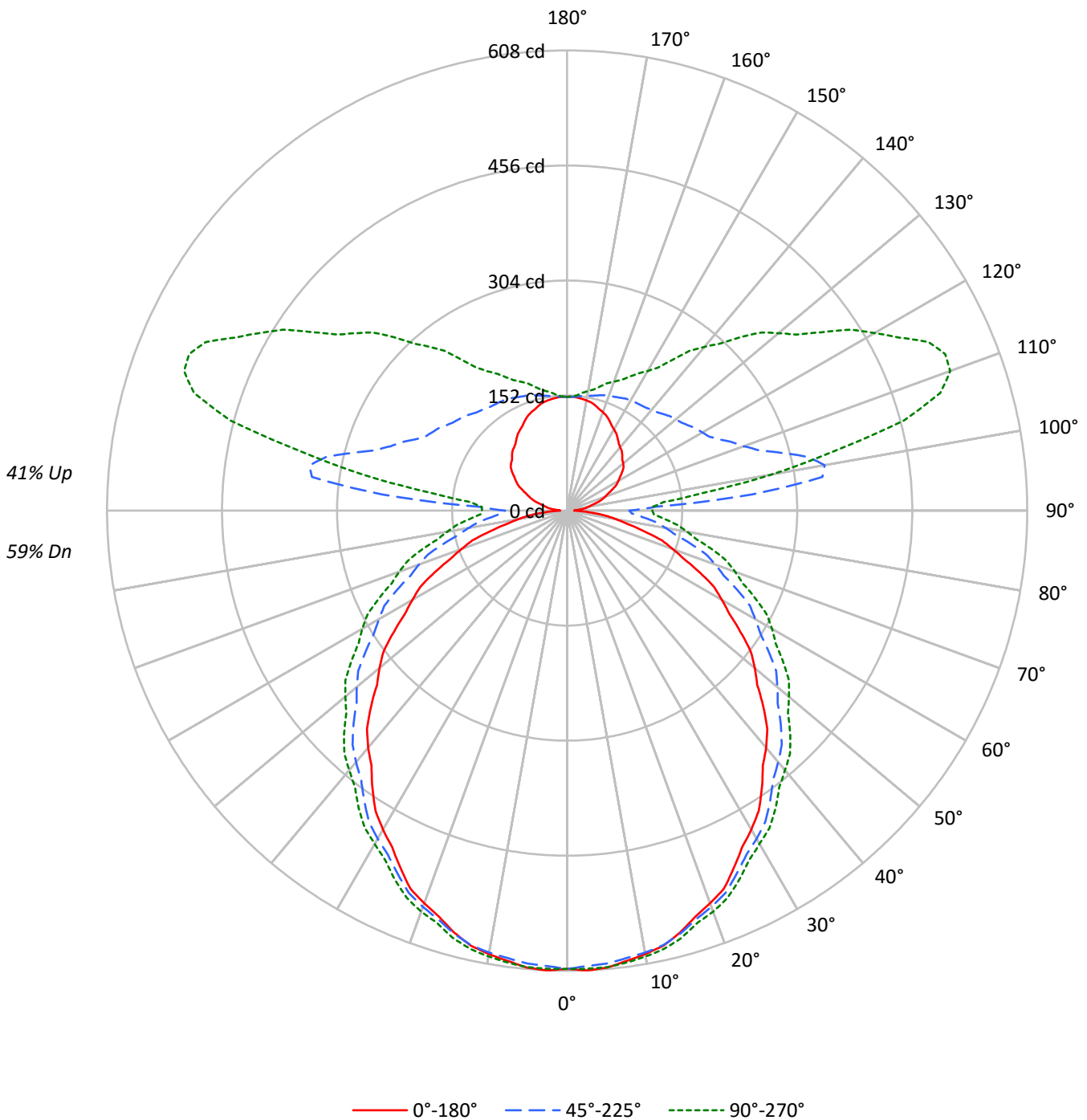
Lumens per Lamp: N/A
Luminaire Lumens: 3166.6 lumens
Efficiency: N/A
Efficacy: 115.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 27.5
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	0
RCR																		
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59
1	99	94	89	85	92	87	83	80	76	73	70	65	63	61	55	53	52	47
2	89	81	74	69	83	76	70	65	66	61	57	56	53	50	48	45	43	38
3	81	71	63	57	75	66	59	53	57	52	47	49	45	42	42	39	36	32
4	74	63	54	48	69	58	51	45	51	45	40	44	39	35	37	34	31	27
5	68	56	47	41	63	52	44	39	45	39	34	39	34	30	33	30	26	23
6	63	50	41	35	58	47	39	33	41	35	30	35	30	26	30	26	23	20
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	27	24	20	18
8	54	41	33	27	50	38	31	26	34	28	23	29	24	21	25	21	18	16
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	22	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.4	1.8
10°-20°	163.6	5.2
20°-30°	244.7	7.7
30°-40°	292.2	9.2
40°-50°	305.8	9.7
50°-60°	286.9	9.1
60°-70°	239.6	7.6
70°-80°	171.5	5.4
80°-90°	103.4	3.3
90°-100°	147.8	4.7
100°-110°	284.0	9.0
110°-120°	264.5	8.4
120°-130°	203.8	6.4
130°-140°	154.6	4.9
140°-150°	111.1	3.5
150°-160°	76.2	2.4
160°-170°	44.8	1.4
170°-180°	14.6	0.5
0°-30°	465.7	14.7
0°-40°	758.0	23.9
0°-60°	1350.7	42.7
0°-90°	1865.2	58.9
90°-120°	696.3	22.0
90°-150°	1165.8	36.8
90°-180°	1301.0	41.1
0°-180°	3166.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	9	45	82	105	112	7
95°	18	67	246	138	128	17
105°	41	74	294	495	461	43
115°	66	90	222	460	527	65
125°	89	105	196	351	411	79
135°	103	122	180	280	324	80
145°	117	133	170	219	243	73
155°	132	142	165	187	195	61
165°	144	148	158	167	170	41
175°	150	150	151	153	153	14
180°	150	150	150	150	150	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.7	25.1	32.5	40.0	47.4	54.9	62.6	70.3	77.9	85.6	90.5
90°	9.2	17.0	24.8	32.9	40.6	48.6	57.0	65.3	73.8	82.1	86.8
92.5°	11.8	20.1	29.2	38.0	47.0	58.5	73.8	94.2	114.4	117.1	110.5
95°	17.6	24.2	33.3	44.2	57.8	76.1	109.2	161.7	218.8	245.7	216.2
97.5°	24.1	29.5	37.4	47.0	59.9	78.8	110.4	168.3	258.4	340.2	364.0
100°	28.4	33.4	40.3	49.2	61.2	78.8	106.9	158.6	245.4	345.5	409.7
102.5°	33.1	37.8	43.9	52.2	62.9	79.3	105.0	149.8	227.7	326.5	408.9
105°	40.6	45.0	50.4	57.5	66.8	81.2	103.9	141.5	205.3	294.1	385.6
107.5°	48.0	51.8	56.6	63.2	71.5	84.8	105.2	137.2	189.6	265.0	348.2
110°	53.2	56.8	61.0	67.0	74.7	87.6	107.1	136.0	182.7	248.5	325.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	58.6	61.6	65.3	70.9	78.3	90.4	108.7	135.8	177.4	236.1	304.0
115°	65.7	68.6	72.2	77.1	83.9	95.7	112.5	136.4	172.7	222.1	278.2
117.5°	73.3	75.8	78.4	82.2	89.1	99.7	116.1	137.7	168.9	211.6	260.6
120°	78.1	79.7	82.0	85.8	92.3	102.7	118.5	139.1	167.4	206.3	251.1
122.5°	82.7	84.0	85.9	89.5	95.5	106.1	121.4	140.6	166.7	202.0	242.7
125°	88.7	89.3	91.1	94.5	100.2	110.6	125.5	143.1	165.7	195.8	231.4
127.5°	93.8	94.5	96.6	99.9	106.2	116.0	129.8	145.4	165.3	190.7	220.9
130°	96.9	97.6	100.3	103.8	110.0	119.6	132.6	147.1	165.2	187.4	214.7
132.5°	98.8	100.0	102.9	107.3	113.6	122.7	134.9	148.5	164.6	184.4	208.9
135°	103.0	104.0	107.2	111.7	117.9	126.8	137.8	149.8	163.6	180.1	200.7
137.5°	106.9	108.0	111.2	115.9	122.1	130.1	140.1	150.8	162.6	176.3	193.6
140°	109.0	110.5	113.6	118.4	124.5	132.3	141.5	151.2	162.0	173.9	189.2
142.5°	111.9	113.0	116.2	120.5	126.5	133.5	142.2	151.2	160.9	171.3	184.9
145°	116.6	117.4	119.9	124.3	129.4	136.3	144.2	152.4	160.9	170.0	181.0
147.5°	120.7	121.2	123.9	127.9	132.9	138.8	146.0	153.4	160.9	168.9	177.6
150°	123.8	124.2	126.6	130.5	134.7	140.3	147.2	153.7	160.9	168.0	175.6
152.5°	127.0	127.1	129.5	132.9	136.7	142.0	148.0	154.1	160.2	166.8	173.6
155°	131.7	131.7	133.5	136.6	140.0	144.2	149.4	154.3	159.5	164.6	170.7
157.5°	135.5	135.8	137.2	139.9	142.8	146.0	150.2	154.5	158.4	162.7	167.4
160°	138.4	138.4	139.7	142.1	144.2	147.2	150.9	154.5	157.9	161.3	165.2
162.5°	140.6	140.6	141.6	143.5	145.4	148.0	151.2	154.3	157.0	159.8	163.0
165°	143.9	143.6	144.2	145.8	147.0	149.1	151.5	153.7	155.5	157.6	160.1
167.5°	146.4	146.0	146.4	147.5	148.4	149.7	151.4	153.2	154.0	155.4	157.2
170°	147.8	147.2	147.6	148.4	149.1	149.7	151.2	152.4	153.1	153.9	155.5
172.5°	148.9	148.4	148.5	149.2	149.6	149.9	151.2	152.2	152.3	152.7	153.8
175°	150.0	149.7	149.4	150.0	150.0	150.3	150.9	151.5	151.2	151.2	151.8
177.5°	150.6	150.3	150.1	150.3	150.3	150.3	150.6	151.0	150.6	150.3	150.6
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	95.5	100.6	105.6	108.9	110.4	111.8	113.4	114.8
90°	92.1	97.4	102.7	106.5	107.7	109.4	111.2	112.4
92.5°	105.6	105.2	107.7	109.3	110.0	110.5	112.1	113.0
95°	183.9	153.2	141.5	133.6	129.3	128.0	127.3	127.6
97.5°	342.3	292.3	257.4	224.0	203.0	190.8	184.0	182.9
100°	424.6	404.2	372.9	332.5	303.2	282.5	272.1	273.9
102.5°	449.7	453.1	436.4	411.8	389.3	373.2	364.8	359.3
105°	453.2	487.8	497.7	492.4	479.7	469.5	461.1	460.9
107.5°	424.3	477.6	508.2	521.6	523.1	520.6	518.6	517.0
110°	398.6	458.3	500.5	524.3	533.9	537.5	538.1	538.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	372.5	433.3	480.0	509.9	526.8	535.6	539.2	540.6
115°	338.0	394.5	442.7	478.3	502.2	516.8	524.1	526.8
117.5°	311.6	360.8	404.5	440.4	465.4	481.8	491.8	495.0
120°	297.3	341.7	381.7	414.6	439.6	457.7	466.1	468.9
122.5°	285.4	325.9	363.0	393.6	416.0	432.4	441.4	444.8
125°	269.1	305.4	337.7	364.0	384.6	399.0	407.6	410.8
127.5°	254.3	286.9	316.1	340.2	358.5	371.0	378.8	381.8
130°	245.0	275.1	302.6	325.0	342.1	353.9	361.2	364.5
132.5°	236.0	263.8	289.5	311.0	327.1	339.1	345.8	348.4
135°	223.8	248.0	270.4	289.4	305.1	315.0	321.2	324.0
137.5°	212.4	232.5	251.8	268.4	281.6	291.6	297.0	299.1
140°	205.7	223.4	240.2	254.8	267.1	276.3	281.9	282.3
142.5°	199.0	214.3	228.9	241.6	252.3	260.5	265.6	266.0
145°	191.9	203.1	214.0	223.7	232.0	238.9	241.9	243.1
147.5°	186.1	194.5	202.7	209.4	215.7	220.6	223.4	224.2
150°	182.5	189.6	196.0	201.9	206.7	210.3	212.5	212.8
152.5°	179.9	185.9	191.6	196.4	200.0	203.2	204.4	204.4
155°	175.9	180.7	185.3	188.9	191.7	194.2	194.8	195.0
157.5°	171.6	175.6	179.2	182.1	184.4	186.2	186.8	186.7
160°	169.2	172.5	175.6	177.7	179.8	181.7	181.7	181.3
162.5°	166.3	169.1	171.9	173.8	175.2	176.8	176.8	176.5
165°	162.5	164.3	166.4	168.0	169.2	170.4	170.0	170.0
167.5°	159.2	160.6	161.8	162.9	163.4	164.3	164.0	164.0
170°	157.0	157.9	159.1	159.7	160.1	160.7	160.3	160.3
172.5°	155.1	155.8	156.7	157.0	157.1	157.7	157.2	157.0
175°	152.4	152.7	153.3	153.3	153.3	153.7	153.3	153.1
177.5°	150.8	151.0	151.3	151.3	151.0	151.3	150.8	150.8
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3

(END OF REPORT)