

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: P331923

Luminaire Tested: **S123DIP-S560D585U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331923  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S560D585U835-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4377.0 lumens  
Efficiency: N/A  
Efficacy: 133.4 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

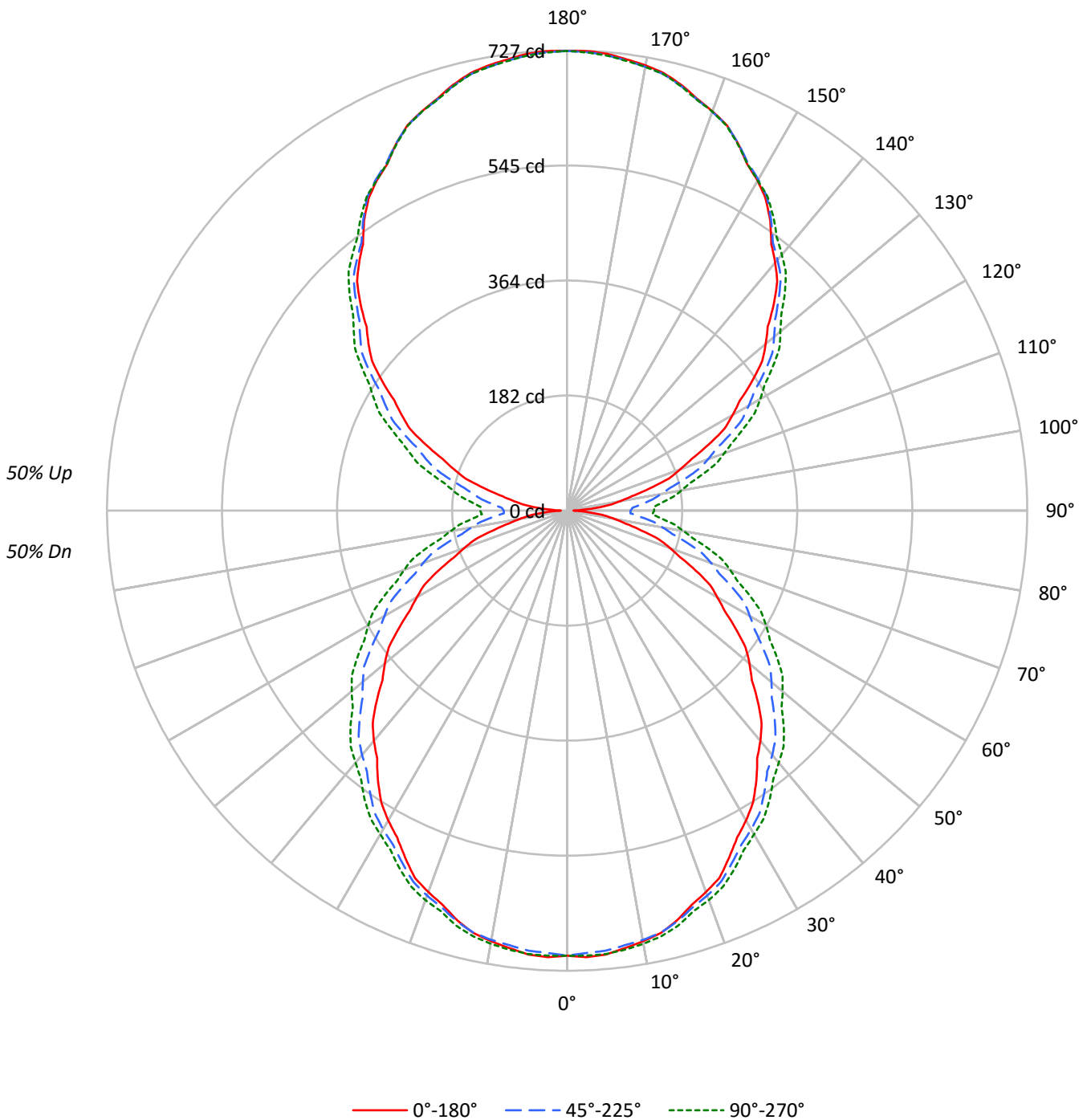
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

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

	0°	45°	90°
0°	7569	7569	7569
5°	7593	7378	7383
10°	7525	7209	7173
15°	7428	7016	6943
20°	7289	6795	6690
25°	7119	6541	6425
30°	6943	6313	6156
35°	6746	6072	5942
40°	6558	5852	5711
45°	6351	5641	5527
50°	6145	5433	5325
55°	5919	5219	5143
60°	5697	5003	4956
65°	5471	4772	4733
70°	5132	4514	4504
75°	4700	4216	4274
80°	4202	3924	4008
85°	3741	3722	3854



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.7	1.5
10°-20°	190.0	4.3
20°-30°	284.2	6.5
30°-40°	339.4	7.8
40°-50°	355.1	8.1
50°-60°	333.2	7.6
60°-70°	278.3	6.4
70°-80°	199.1	4.5
80°-90°	120.9	2.8
90°-100°	121.8	2.8
100°-110°	196.3	4.5
110°-120°	277.4	6.3
120°-130°	337.6	7.7
130°-140°	365.4	8.3
140°-150°	352.0	8.0
150°-160°	294.6	6.7
160°-170°	196.1	4.5
170°-180°	68.7	1.6
0°-30°	540.9	12.4
0°-40°	880.3	20.1
0°-60°	1568.7	35.8
0°-90°	2167.1	49.5
90°-120°	595.5	13.6
90°-150°	1650.5	37.7
90°-180°	2210.0	50.5
0°-180°	4377.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	703	703	703	703	703	
5°	704	702	698	704	703	67
15°	670	672	672	679	679	189
25°	605	613	615	625	625	279
35°	521	533	543	554	558	326
45°	426	444	463	478	484	328
55°	325	350	378	398	404	291
65°	224	255	288	310	319	222
75°	122	158	196	220	231	130
85°	38	76	116	141	150	39
90°	10	54	100	128	137	9
95°	42	76	118	143	152	44
105°	134	155	192	213	222	144
115°	246	258	284	302	308	244
125°	357	360	380	393	397	319
135°	462	465	472	483	486	356
145°	559	560	561	567	568	349
155°	639	639	640	642	638	294
165°	696	695	695	698	694	196
175°	724	722	722	725	722	69
180°	726	726	726	726	726	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	706.3	705.9	705.5	705.0	704.6	703.9	702.8	701.7	700.6	699.5	700.6
5°	704.0	703.6	703.3	703.0	702.6	701.9	700.9	699.9	698.9	697.8	699.2
7.5°	697.1	697.1	697.2	697.3	697.4	696.9	695.9	694.9	693.9	692.9	694.6
10°	691.0	691.3	691.6	692.0	692.3	692.1	691.2	690.4	689.5	688.7	690.4
12.5°	683.6	684.1	684.6	685.0	685.5	685.5	684.9	684.3	683.7	683.1	684.7
15°	670.3	670.8	671.3	671.8	672.3	672.5	672.3	672.1	672.0	671.8	673.5
17.5°	653.4	654.4	655.5	656.5	657.5	658.0	657.9	657.8	657.8	657.7	659.2
20°	641.2	642.2	643.2	644.2	645.2	645.9	646.3	646.6	646.9	647.3	648.8
22.5°	628.3	629.3	630.3	631.4	632.4	633.1	633.6	634.1	634.6	635.0	637.0
25°	605.2	606.9	608.6	610.3	612.0	613.1	613.6	614.1	614.6	615.1	617.3
27.5°	581.9	583.8	585.8	587.7	589.6	591.1	592.2	593.3	594.4	595.5	597.4
30°	565.3	567.5	569.7	572.0	574.2	576.0	577.3	578.7	580.0	581.4	583.5
32.5°	546.9	549.4	551.9	554.4	556.9	559.0	560.8	562.5	564.3	566.1	568.3
35°	520.9	523.6	526.3	529.1	531.8	534.3	536.5	538.7	540.9	543.1	545.7
37.5°	493.3	496.4	499.4	502.5	505.6	508.5	511.2	513.9	516.6	519.4	522.3
40°	474.9	478.0	481.1	484.1	487.2	490.4	493.8	497.2	500.6	504.0	506.9
42.5°	454.7	458.5	462.2	465.9	469.7	473.3	476.9	480.4	484.0	487.5	490.7
45°	425.9	430.0	434.1	438.2	442.2	446.4	450.7	454.9	459.2	463.4	466.7
47.5°	395.7	400.4	405.0	409.6	414.2	419.0	423.9	428.7	433.6	438.5	442.1
50°	376.1	380.9	385.6	390.4	395.2	400.2	405.5	410.8	416.0	421.3	425.2
52.5°	355.3	360.3	365.4	370.4	375.4	380.9	386.7	392.5	398.3	404.2	408.2
55°	324.8	330.4	336.0	341.6	347.3	353.1	359.3	365.4	371.5	377.6	382.2
57.5°	295.1	300.9	306.8	312.6	318.5	324.8	331.5	338.2	344.9	351.6	356.2
60°	274.2	280.4	286.5	292.6	298.7	305.3	312.3	319.3	326.2	333.2	338.0
62.5°	254.6	260.9	267.2	273.4	279.7	286.5	293.9	301.3	308.7	316.1	320.8
65°	224.4	231.1	237.7	244.4	251.0	258.1	265.6	273.0	280.5	288.0	293.1
67.5°	193.8	200.9	207.9	214.9	222.0	229.3	237.0	244.6	252.2	259.8	265.4
70°	172.4	179.7	187.0	194.3	201.6	209.4	217.5	225.7	233.9	242.1	247.5
72.5°	152.7	160.1	167.4	174.7	182.0	189.9	198.3	206.8	215.2	223.7	229.3
75°	121.8	129.8	137.8	145.8	153.8	162.1	170.6	179.1	187.6	196.1	201.7
77.5°	94.8	102.9	111.0	119.0	127.1	135.4	144.0	152.6	161.2	169.8	175.7
80°	75.8	84.2	92.5	100.9	109.2	117.8	126.6	135.5	144.4	153.2	159.0
82.5°	59.3	67.8	76.2	84.7	93.2	101.9	110.9	119.9	128.9	137.9	143.7
85°	37.5	46.0	54.6	63.1	71.6	80.3	89.4	98.4	107.4	116.4	122.2
87.5°	20.5	29.2	38.0	46.7	55.4	64.3	73.3	82.3	91.3	100.3	106.2
90°	10.5	20.1	29.7	39.4	49.0	58.9	69.3	79.6	89.9	100.2	106.5
92.5°	23.1	31.5	39.9	48.3	56.7	65.6	75.1	84.6	94.1	103.6	109.6
95°	42.1	49.6	57.1	64.7	72.2	80.6	90.0	99.3	108.7	118.0	123.8
97.5°	67.3	73.9	80.6	87.2	93.9	101.6	110.3	119.0	127.7	136.4	142.0
100°	84.5	90.7	96.9	103.1	109.3	116.6	125.1	133.6	142.0	150.5	155.8
102.5°	104.4	109.7	115.1	120.5	125.8	132.8	141.3	149.8	158.4	166.9	172.1
105°	134.5	138.8	143.1	147.5	151.8	158.2	166.7	175.1	183.6	192.1	196.8
107.5°	168.7	172.3	175.9	179.6	183.2	188.7	196.1	203.5	210.9	218.3	223.3
110°	190.0	193.3	196.6	199.9	203.2	208.4	215.5	222.6	229.6	236.7	241.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	212.8	215.5	218.1	220.8	223.5	228.1	234.7	241.3	247.9	254.5	259.4
115°	246.2	248.7	251.1	253.5	255.9	260.1	266.0	271.8	277.7	283.6	287.8
117.5°	280.5	282.1	283.6	285.1	286.6	290.1	295.5	300.9	306.3	311.8	315.8
120°	301.4	303.0	304.6	306.2	307.8	311.1	316.1	321.1	326.1	331.1	334.8
122.5°	323.7	324.7	325.7	326.7	327.7	330.7	335.8	340.8	345.8	350.8	354.3
125°	357.1	357.5	357.8	358.2	358.6	361.1	365.8	370.5	375.2	379.9	382.9
127.5°	388.6	389.2	389.8	390.5	391.1	393.4	397.2	401.0	404.8	408.6	411.2
130°	409.6	410.4	411.2	412.1	412.9	414.9	417.9	420.9	423.9	427.0	429.7
132.5°	429.9	430.9	431.9	432.9	433.9	435.6	438.0	440.5	442.9	445.3	447.8
135°	461.8	462.4	463.0	463.6	464.2	465.4	467.1	468.9	470.6	472.3	474.9
137.5°	491.3	491.8	492.3	492.8	493.3	494.3	495.7	497.0	498.4	499.8	502.0
140°	511.3	511.9	512.5	513.2	513.8	514.4	515.1	515.7	516.3	517.0	519.4
142.5°	530.0	530.5	531.0	531.5	532.0	532.4	532.7	533.0	533.4	533.7	535.9
145°	559.2	559.3	559.3	559.4	559.5	559.7	560.1	560.5	560.9	561.3	562.5
147.5°	584.0	584.4	584.9	585.3	585.8	586.2	586.6	586.9	587.3	587.6	588.0
150°	601.8	602.0	602.3	602.5	602.8	603.0	603.3	603.5	603.8	604.0	604.0
152.5°	616.4	616.7	617.1	617.4	617.8	618.0	618.2	618.3	618.5	618.6	618.8
155°	639.4	639.4	639.4	639.4	639.4	639.5	639.6	639.7	639.9	640.0	640.5
157.5°	659.0	658.9	658.7	658.6	658.4	658.4	658.5	658.6	658.7	658.8	659.3
160°	671.3	671.1	670.8	670.6	670.3	670.2	670.2	670.2	670.2	670.2	670.8
162.5°	682.3	681.9	681.6	681.2	680.9	680.8	680.9	681.0	681.1	681.2	681.8
165°	696.4	696.1	695.7	695.3	694.9	694.7	694.7	694.7	694.7	694.7	695.5
167.5°	707.7	707.2	706.7	706.2	705.7	705.5	705.6	705.7	705.8	705.9	706.7
170°	714.1	713.6	713.1	712.6	712.1	711.8	711.8	711.8	711.8	711.8	712.7
172.5°	719.1	718.6	718.1	717.6	717.1	716.9	716.9	716.9	716.9	716.9	717.7
175°	724.4	723.9	723.4	722.9	722.4	722.1	722.1	722.1	722.1	722.1	722.9
177.5°	726.6	726.2	725.8	725.3	724.9	724.7	724.7	724.7	724.7	724.7	725.3
180°	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	701.7	702.8	703.9	704.4	704.2	704.1	704.0	703.8
5°	700.6	701.9	703.3	703.9	703.7	703.5	703.4	703.2
7.5°	696.3	698.0	699.8	700.5	700.3	700.1	699.9	699.7
10°	692.1	693.8	695.5	696.1	695.8	695.5	695.1	694.8
12.5°	686.3	687.8	689.4	690.0	689.7	689.3	689.0	688.7
15°	675.2	676.9	678.6	679.4	679.2	679.0	678.9	678.7
17.5°	660.8	662.3	663.8	664.5	664.2	664.0	663.8	663.5
20°	650.4	651.9	653.4	654.3	654.4	654.6	654.8	654.9
22.5°	638.9	640.9	642.8	643.7	643.6	643.5	643.4	643.3
25°	619.5	621.8	624.0	625.1	625.1	625.1	625.1	625.1
27.5°	599.3	601.2	603.1	604.2	604.3	604.4	604.6	604.7
30°	585.5	587.5	589.6	590.6	590.6	590.6	590.6	590.6
32.5°	570.4	572.6	574.8	576.1	576.5	576.9	577.3	577.7
35°	548.2	550.8	553.3	554.9	555.6	556.3	557.0	557.7
37.5°	525.1	528.0	530.9	532.7	533.2	533.7	534.3	534.8
40°	509.8	512.7	515.6	517.4	518.1	518.8	519.4	520.1
42.5°	493.8	497.0	500.2	502.2	503.2	504.1	505.1	506.0
45°	469.9	473.1	476.4	478.7	480.0	481.4	482.8	484.1
47.5°	445.8	449.4	453.0	455.4	456.4	457.5	458.6	459.6
50°	429.1	433.1	437.0	439.5	440.7	441.9	443.1	444.3
52.5°	412.3	416.3	420.4	423.1	424.6	426.0	427.5	429.0
55°	386.8	391.4	396.0	399.0	400.4	401.7	403.1	404.5
57.5°	360.9	365.5	370.1	373.2	374.8	376.4	378.0	379.6
60°	342.8	347.5	352.3	355.6	357.5	359.3	361.2	363.1
62.5°	325.6	330.4	335.1	338.4	340.1	341.8	343.6	345.3
65°	298.2	303.3	308.5	311.9	313.6	315.3	317.0	318.7
67.5°	271.0	276.6	282.2	285.7	287.1	288.5	290.0	291.4
70°	253.0	258.4	263.9	267.4	269.1	270.8	272.5	274.2
72.5°	234.8	240.4	246.0	249.7	251.4	253.1	254.8	256.5
75°	207.3	213.0	218.6	222.4	224.4	226.5	228.5	230.6
77.5°	181.6	187.5	193.4	197.2	198.8	200.3	201.9	203.5
80°	164.8	170.6	176.4	180.1	181.8	183.5	185.2	186.9
82.5°	149.5	155.2	161.0	164.8	166.5	168.2	169.9	171.6
85°	128.0	133.8	139.6	143.3	145.0	146.7	148.4	150.1
87.5°	112.1	118.0	123.9	127.7	129.5	131.2	133.0	134.7
90°	112.8	119.1	125.4	129.6	131.5	133.5	135.4	137.4
92.5°	115.7	121.7	127.8	131.5	132.9	134.4	135.8	137.2
95°	129.6	135.4	141.2	144.9	146.6	148.3	150.0	151.7
97.5°	147.7	153.3	159.0	162.6	164.3	166.0	167.6	169.3
100°	161.1	166.4	171.8	175.4	177.4	179.3	181.3	183.2
102.5°	177.3	182.4	187.6	191.0	192.7	194.3	196.0	197.6
105°	201.6	206.4	211.1	214.4	216.2	218.0	219.8	221.5
107.5°	228.2	233.2	238.2	241.3	242.7	244.0	245.4	246.7
110°	246.5	251.5	256.4	259.4	260.5	261.7	262.8	263.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	264.2	269.1	274.0	277.2	278.7	280.1	281.6	283.0
115°	292.0	296.2	300.4	303.2	304.4	305.6	306.9	308.1
117.5°	319.8	323.8	327.9	330.4	331.3	332.3	333.3	334.3
120°	338.6	342.4	346.2	348.6	349.5	350.5	351.4	352.3
122.5°	357.7	361.2	364.6	366.8	367.6	368.4	369.3	370.1
125°	386.0	389.1	392.1	394.0	394.7	395.4	396.1	396.8
127.5°	413.9	416.6	419.2	420.8	421.4	422.0	422.6	423.1
130°	432.4	435.1	437.9	439.3	439.4	439.6	439.7	439.8
132.5°	450.3	452.8	455.3	456.8	457.3	457.7	458.2	458.7
135°	477.5	480.0	482.6	484.2	484.8	485.4	485.9	486.5
137.5°	504.1	506.3	508.4	509.7	510.1	510.4	510.8	511.2
140°	521.8	524.3	526.7	527.9	527.9	527.8	527.8	527.7
142.5°	538.0	540.2	542.3	543.5	543.6	543.8	544.0	544.1
145°	563.7	565.0	566.2	566.9	567.1	567.3	567.4	567.6
147.5°	588.4	588.8	589.3	589.4	589.2	589.1	588.9	588.8
150°	604.0	604.0	604.0	603.8	603.4	603.0	602.6	602.2
152.5°	619.1	619.3	619.5	619.3	618.7	618.1	617.5	616.9
155°	641.0	641.5	642.0	641.8	640.9	640.0	639.2	638.3
157.5°	659.9	660.4	660.9	660.8	660.1	659.4	658.7	658.0
160°	671.5	672.1	672.7	672.8	672.3	671.8	671.3	670.8
162.5°	682.4	683.1	683.7	683.6	682.8	682.0	681.2	680.4
165°	696.3	697.0	697.8	697.7	696.8	695.9	695.1	694.2
167.5°	707.5	708.3	709.1	709.1	708.3	707.5	706.7	705.9
170°	713.6	714.5	715.4	715.4	714.5	713.6	712.7	711.8
172.5°	718.4	719.2	720.0	720.0	719.1	718.2	717.3	716.4
175°	723.6	724.4	725.2	725.1	724.2	723.3	722.4	721.5
177.5°	726.0	726.6	727.2	727.1	726.4	725.7	725.0	724.3
180°	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1

(END OF REPORT)