

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: P332274-830

Luminaire Tested: **S123RDIP-S560D365U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332274-830
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: S123RDIP-S560D365U830-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3187.2 lumens
Efficiency: N/A
Efficacy: 115.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

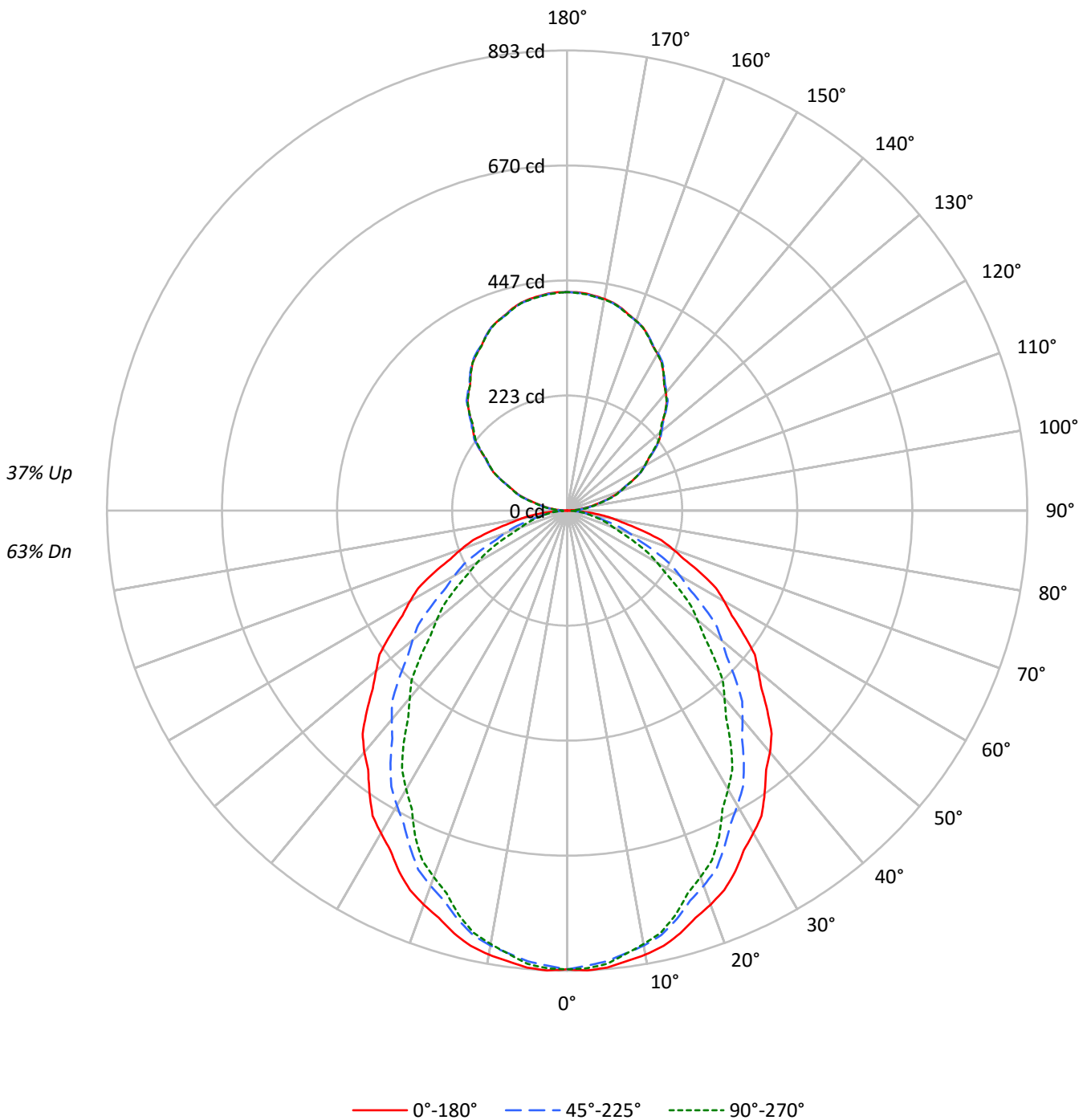
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	91	91	91		79	79	79		68	68	68	63
1	101	97	93	90	95	91	88	85	80	78	75		70	68	67		61	60	58	54
2	92	85	79	74	87	80	75	70	71	67	63		62	59	56		54	52	50	46
3	85	75	68	62	79	71	64	59	63	58	54		55	51	48		48	45	43	39
4	78	67	59	53	73	63	56	51	56	50	46		50	45	42		43	40	37	34
5	71	60	52	46	67	57	49	44	50	45	40		45	40	36		39	36	33	30
6	66	54	46	40	62	51	44	38	46	40	35		41	36	32		36	32	29	26
7	61	49	41	35	57	46	39	34	42	36	31		37	32	29		33	29	26	24
8	57	44	37	31	53	42	35	30	38	32	28		34	29	26		30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25		31	27	23		28	24	21	19
10	50	38	30	25	47	36	29	25	32	27	23		29	24	21		26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9582	9582	9582
5°	9619	9487	9541
10°	9565	9368	9335
15°	9461	9149	9052
20°	9321	8874	8668
25°	9175	8567	8291
30°	8983	8211	7762
35°	8784	7857	7276
40°	8604	7436	6674
45°	8363	7024	6132
50°	8100	6553	5526
55°	7833	6016	4960
60°	7584	5440	4336
65°	7264	4819	3713
70°	6861	4047	2999
75°	6276	3182	2824
80°	5597	2820	2591
85°	4730	2495	2322



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.6	2.6
10°-20°	232.6	7.3
20°-30°	334.9	10.5
30°-40°	377.3	11.8
40°-50°	360.9	11.3
50°-60°	295.6	9.3
60°-70°	199.4	6.3
70°-80°	100.3	3.1
80°-90°	27.8	0.9
90°-100°	27.6	0.9
100°-110°	82.7	2.6
110°-120°	140.6	4.4
120°-130°	185.0	5.8
130°-140°	207.9	6.5
140°-150°	204.4	6.4
150°-160°	172.0	5.4
160°-170°	114.5	3.6
170°-180°	40.1	1.3
0°-30°	651.1	20.4
0°-40°	1028.4	32.3
0°-60°	1684.8	52.9
0°-90°	2012.4	63.1
90°-120°	250.9	7.9
90°-150°	848.1	26.6
90°-180°	1175.0	36.9
0°-180°	3187.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	890	890	890	890	890	
5°	890	886	878	884	883	84
15°	849	840	821	817	812	239
25°	772	754	721	706	698	355
35°	668	642	598	568	554	418
45°	549	516	461	422	403	424
55°	417	380	321	280	264	374
65°	285	245	189	155	146	282
75°	151	116	76	70	68	161
85°	38	23	20	19	19	43
90°	0	4	8	9	10	3
95°	20	22	25	26	26	22
105°	75	76	79	79	79	80
115°	142	142	142	142	142	140
125°	207	208	208	206	205	185
135°	269	271	270	269	268	207
145°	326	327	328	327	326	204
155°	373	373	374	375	373	172
165°	407	406	406	408	405	115
175°	423	422	422	423	421	40
180°	424	424	424	424	424	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	893.2	892.6	892.1	891.6	891.1	890.0	888.5	886.9	885.4	883.9	885.3
5°	890.2	889.5	888.6	887.9	887.0	885.7	883.7	881.8	879.9	878.0	879.4
7.5°	882.0	881.2	880.2	879.4	878.5	876.8	874.4	871.9	869.3	866.9	867.6
10°	875.1	873.9	872.8	871.7	870.6	868.6	865.7	862.8	859.9	857.1	857.1
12.5°	865.3	864.0	862.7	861.5	860.3	857.9	854.3	850.8	847.3	843.8	843.7
15°	849.0	847.3	845.6	843.8	842.1	838.9	834.4	829.9	825.4	821.0	820.1
17.5°	828.7	826.7	824.6	822.6	820.5	816.6	810.9	805.2	799.5	793.8	792.1
20°	813.7	811.2	808.6	806.0	803.4	799.1	793.0	786.9	780.8	774.7	772.6
22.5°	796.9	794.0	791.1	788.1	785.1	780.4	773.9	767.4	761.0	754.5	751.9
25°	772.5	768.5	764.5	760.5	756.5	750.8	743.4	736.0	728.7	721.3	717.9
27.5°	742.9	738.5	734.1	729.6	725.2	718.9	710.7	702.5	694.3	686.1	681.4
30°	722.7	717.9	713.1	708.3	703.5	696.5	687.6	678.6	669.6	660.6	655.2
32.5°	702.5	697.1	691.6	686.2	680.7	673.3	663.7	654.2	644.7	635.2	629.2
35°	668.5	662.8	657.0	651.3	645.5	637.6	627.6	617.7	607.8	597.9	590.9
37.5°	634.2	627.8	621.4	614.9	608.5	600.0	589.4	578.8	568.2	557.5	549.7
40°	612.3	605.2	598.1	591.1	584.0	574.8	563.5	552.0	540.6	529.2	520.8
42.5°	587.4	580.3	573.3	566.3	559.2	549.8	538.0	526.2	514.4	502.7	493.5
45°	549.4	542.2	535.0	527.8	520.6	510.8	498.4	486.1	473.7	461.4	452.2
47.5°	511.4	503.5	495.6	487.7	479.8	469.7	457.2	444.9	432.5	420.2	410.3
50°	483.7	476.2	468.6	461.1	453.6	443.3	430.3	417.4	404.4	391.3	381.4
52.5°	458.9	450.7	442.5	434.3	426.2	415.7	402.7	389.9	377.0	364.2	353.8
55°	417.4	409.4	401.6	393.7	385.9	375.1	361.5	347.9	334.2	320.6	311.2
57.5°	378.9	370.3	361.7	353.2	344.6	333.5	319.8	306.1	292.4	278.7	269.9
60°	352.3	343.6	334.7	325.8	317.1	305.9	292.7	279.4	266.0	252.7	244.0
62.5°	325.7	317.0	308.1	299.3	290.5	279.4	266.1	252.8	239.4	226.1	218.0
65°	285.2	276.4	267.6	258.7	249.9	239.2	226.7	214.2	201.7	189.2	181.3
67.5°	244.6	235.7	226.8	217.8	209.0	198.5	186.4	174.5	162.5	150.4	144.6
70°	218.0	209.3	200.8	192.1	183.4	173.4	162.2	151.0	139.8	128.6	122.9
72.5°	191.4	182.9	174.4	165.9	157.3	148.0	137.8	127.5	117.3	107.2	102.5
75°	150.9	143.2	135.5	127.8	120.1	111.8	103.0	94.2	85.4	76.5	74.9
77.5°	114.0	107.0	100.0	93.0	86.1	79.7	74.1	68.4	62.7	57.0	56.2
80°	90.3	83.7	77.1	70.5	63.9	59.0	55.6	52.2	48.8	45.5	45.0
82.5°	67.8	62.0	56.4	50.7	45.0	41.4	39.8	38.3	36.7	35.1	34.6
85°	38.3	34.8	31.2	27.7	24.1	22.1	21.7	21.2	20.7	20.2	19.9
87.5°	13.9	12.6	11.4	10.2	8.9	8.3	8.6	8.8	9.0	9.1	9.0
90°	0.4	1.0	1.8	2.5	3.3	4.1	5.1	6.0	7.1	8.0	8.3
92.5°	8.1	8.6	9.0	9.6	10.1	10.6	11.1	11.7	12.3	12.8	13.0
95°	19.7	20.2	20.6	21.2	21.7	22.2	22.9	23.5	24.0	24.7	25.0
97.5°	34.9	35.3	35.7	36.1	36.5	36.9	37.3	37.7	38.2	38.5	38.9
100°	45.3	45.7	46.2	46.7	47.0	47.5	47.9	48.3	48.6	48.9	49.2
102.5°	57.3	57.6	57.8	58.1	58.3	58.7	59.2	59.8	60.2	60.7	60.9
105°	74.9	75.1	75.2	75.4	75.5	76.0	76.6	77.3	77.9	78.6	78.6
107.5°	95.5	95.6	95.7	95.8	95.9	96.0	96.2	96.5	96.8	97.1	97.3
110°	108.3	108.4	108.6	108.7	108.9	109.0	109.1	109.3	109.4	109.6	109.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	121.6	121.7	121.8	121.9	122.0	122.0	122.1	122.1	122.1	122.2	122.4
115°	141.6	141.8	142.0	142.2	142.4	142.5	142.3	142.2	142.0	141.9	141.9
117.5°	161.6	161.8	162.0	162.1	162.3	162.2	162.0	161.8	161.6	161.5	161.5
120°	174.2	174.7	175.1	175.5	176.0	176.0	175.7	175.3	174.9	174.6	174.5
122.5°	187.3	187.6	187.9	188.2	188.6	188.6	188.4	188.2	188.0	187.8	187.7
125°	207.2	207.4	207.6	207.8	208.1	208.1	207.9	207.8	207.6	207.5	207.2
127.5°	225.6	226.0	226.5	227.0	227.4	227.6	227.4	227.2	227.2	227.0	226.6
130°	237.8	238.4	239.0	239.6	240.2	240.3	240.2	240.0	239.7	239.5	239.2
132.5°	250.1	250.7	251.3	251.8	252.4	252.7	252.5	252.3	252.1	252.0	251.7
135°	268.8	269.3	269.7	270.1	270.6	270.8	270.7	270.6	270.5	270.5	270.1
137.5°	286.2	286.5	286.8	287.2	287.6	287.9	288.0	288.2	288.4	288.6	288.3
140°	298.1	298.5	298.9	299.3	299.6	299.8	299.9	299.9	300.0	300.1	300.0
142.5°	309.1	309.4	309.8	310.2	310.5	310.8	310.9	311.0	311.1	311.3	311.2
145°	326.1	326.2	326.4	326.5	326.7	326.9	327.1	327.3	327.5	327.7	327.7
147.5°	341.0	341.3	341.6	341.9	342.0	342.3	342.5	342.7	342.9	343.2	343.2
150°	351.4	351.6	351.7	351.9	352.0	352.1	352.3	352.4	352.6	352.7	352.7
152.5°	360.0	360.1	360.3	360.5	360.8	360.9	361.0	361.1	361.2	361.3	361.4
155°	373.4	373.4	373.4	373.4	373.4	373.4	373.5	373.5	373.6	373.7	374.0
157.5°	384.8	384.7	384.7	384.6	384.5	384.5	384.6	384.6	384.7	384.7	385.0
160°	392.0	391.9	391.7	391.6	391.4	391.3	391.3	391.3	391.3	391.3	391.7
162.5°	398.4	398.2	398.0	397.8	397.6	397.6	397.6	397.7	397.8	397.8	398.1
165°	406.7	406.5	406.2	406.0	405.8	405.7	405.7	405.7	405.7	405.7	406.1
167.5°	413.3	413.0	412.7	412.4	412.1	412.0	412.1	412.1	412.2	412.3	412.6
170°	417.0	416.7	416.4	416.1	415.8	415.7	415.7	415.7	415.7	415.7	416.2
172.5°	420.0	419.6	419.3	419.1	418.8	418.6	418.6	418.6	418.6	418.6	419.1
175°	423.0	422.7	422.4	422.2	421.9	421.7	421.7	421.7	421.7	421.7	422.2
177.5°	424.2	424.0	423.8	423.6	423.3	423.2	423.2	423.2	423.2	423.2	423.6
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	886.7	888.2	889.6	890.1	889.9	889.6	889.4	889.1
5°	880.8	882.3	883.7	884.3	884.0	883.6	883.4	883.0
7.5°	868.5	869.2	870.1	870.2	869.6	869.1	868.6	868.0
10°	857.3	857.5	857.6	857.3	856.6	855.7	855.0	854.1
12.5°	843.6	843.5	843.4	842.8	841.9	840.9	840.1	839.1
15°	819.4	818.5	817.7	816.7	815.6	814.5	813.4	812.3
17.5°	790.4	788.7	786.9	785.3	783.6	781.9	780.2	778.6
20°	770.5	768.5	766.4	764.4	762.4	760.5	758.6	756.7
22.5°	749.3	746.7	744.1	741.9	740.1	738.3	736.5	734.7
25°	714.5	711.1	707.8	705.2	703.5	701.7	699.9	698.1
27.5°	676.7	672.0	667.3	663.6	660.9	658.3	655.5	652.8
30°	649.7	644.2	638.9	634.8	632.3	629.7	627.1	624.5
32.5°	623.3	617.3	611.3	607.0	604.4	601.6	598.9	596.3
35°	584.0	577.1	570.2	565.3	562.4	559.6	556.7	553.7
37.5°	541.9	534.0	526.2	520.6	517.0	513.4	509.8	506.2
40°	512.6	504.2	495.9	489.8	486.2	482.5	478.8	475.0
42.5°	484.5	475.3	466.2	460.0	456.7	453.4	450.1	446.8
45°	443.1	433.9	424.8	418.3	414.4	410.6	406.7	402.8
47.5°	400.3	390.4	380.4	373.7	370.3	366.8	363.4	360.0
50°	371.5	361.5	351.6	344.7	341.0	337.3	333.7	330.0
52.5°	343.6	333.2	322.8	316.0	312.7	309.4	306.1	302.8
55°	302.0	292.7	283.3	277.1	273.9	270.7	267.5	264.3
57.5°	261.1	252.3	243.6	237.8	235.1	232.3	229.6	226.9
60°	235.4	226.7	218.0	212.4	209.6	206.9	204.2	201.4
62.5°	209.8	201.7	193.5	188.0	185.2	182.3	179.5	176.6
65°	173.4	165.6	157.7	152.9	151.2	149.4	147.6	145.8
67.5°	138.7	132.8	127.0	123.1	121.2	119.3	117.4	115.6
70°	117.3	111.7	106.0	102.4	100.6	98.9	97.1	95.3
72.5°	97.9	93.4	88.8	86.1	85.4	84.6	83.9	83.1
75°	73.3	71.7	70.1	69.2	68.8	68.5	68.1	67.9
77.5°	55.3	54.5	53.5	53.0	52.7	52.3	52.0	51.7
80°	44.5	44.0	43.5	43.2	42.9	42.5	42.2	41.8
82.5°	34.1	33.6	33.2	32.9	32.8	32.8	32.7	32.6
85°	19.6	19.2	18.9	18.8	18.8	18.8	18.8	18.8
87.5°	9.0	8.9	8.9	8.8	8.7	8.6	8.5	8.4
90°	8.6	8.9	9.1	9.4	9.5	9.7	9.8	10.0
92.5°	13.3	13.5	13.8	13.9	13.8	13.7	13.6	13.5
95°	25.3	25.5	25.8	26.0	26.0	26.0	26.0	26.0
97.5°	39.2	39.6	40.0	40.1	40.1	40.1	40.0	40.0
100°	49.4	49.7	49.9	50.0	50.1	50.3	50.5	50.6
102.5°	61.2	61.4	61.5	61.6	61.6	61.6	61.5	61.5
105°	78.6	78.6	78.6	78.7	78.8	79.0	79.2	79.3
107.5°	97.6	97.7	98.0	98.1	98.0	97.9	97.8	97.7
110°	110.2	110.5	110.7	110.8	110.7	110.6	110.4	110.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	122.8	123.2	123.6	123.7	123.7	123.7	123.6	123.6
115°	142.0	142.1	142.2	142.2	142.1	142.0	141.9	141.9
117.5°	161.5	161.5	161.5	161.3	161.1	160.9	160.7	160.5
120°	174.4	174.3	174.3	174.1	174.0	173.8	173.7	173.5
122.5°	187.5	187.3	187.1	186.9	186.7	186.4	186.2	186.1
125°	206.9	206.6	206.3	206.0	205.8	205.5	205.1	204.8
127.5°	226.1	225.7	225.3	224.9	224.6	224.2	223.9	223.6
130°	238.9	238.6	238.3	237.9	237.4	236.9	236.4	235.8
132.5°	251.3	250.9	250.6	250.2	249.8	249.4	249.0	248.6
135°	269.8	269.6	269.3	269.1	268.9	268.7	268.6	268.4
137.5°	288.0	287.8	287.4	287.1	286.8	286.5	286.3	286.0
140°	299.9	299.9	299.8	299.5	299.0	298.5	297.9	297.5
142.5°	311.1	311.0	311.0	310.8	310.4	310.0	309.5	309.2
145°	327.6	327.5	327.4	327.3	327.0	326.7	326.4	326.1
147.5°	343.2	343.2	343.2	342.9	342.5	342.0	341.6	341.1
150°	352.7	352.7	352.7	352.5	352.0	351.7	351.2	350.7
152.5°	361.5	361.7	361.7	361.6	361.2	360.8	360.4	360.1
155°	374.3	374.6	374.9	374.8	374.3	373.7	373.2	372.7
157.5°	385.3	385.7	386.0	385.9	385.5	385.1	384.7	384.3
160°	392.1	392.5	392.9	392.9	392.6	392.3	392.0	391.7
162.5°	398.5	398.9	399.3	399.2	398.7	398.2	397.8	397.3
165°	406.6	407.0	407.5	407.5	406.9	406.4	405.9	405.4
167.5°	413.1	413.6	414.1	414.1	413.6	413.1	412.6	412.3
170°	416.7	417.3	417.7	417.7	417.3	416.7	416.2	415.7
172.5°	419.5	420.0	420.5	420.5	419.9	419.4	418.9	418.4
175°	422.5	423.0	423.5	423.4	422.9	422.4	421.9	421.3
177.5°	424.0	424.2	424.6	424.6	424.2	423.8	423.4	422.9
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0

(END OF REPORT)