

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: P332182-927

Luminaire Tested: **S123DIW-S1000D460U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332182-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S1000D460U927-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 460 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4788.3 lumens  
Efficiency: N/A  
Efficacy: 103.6 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: Semi-Direct

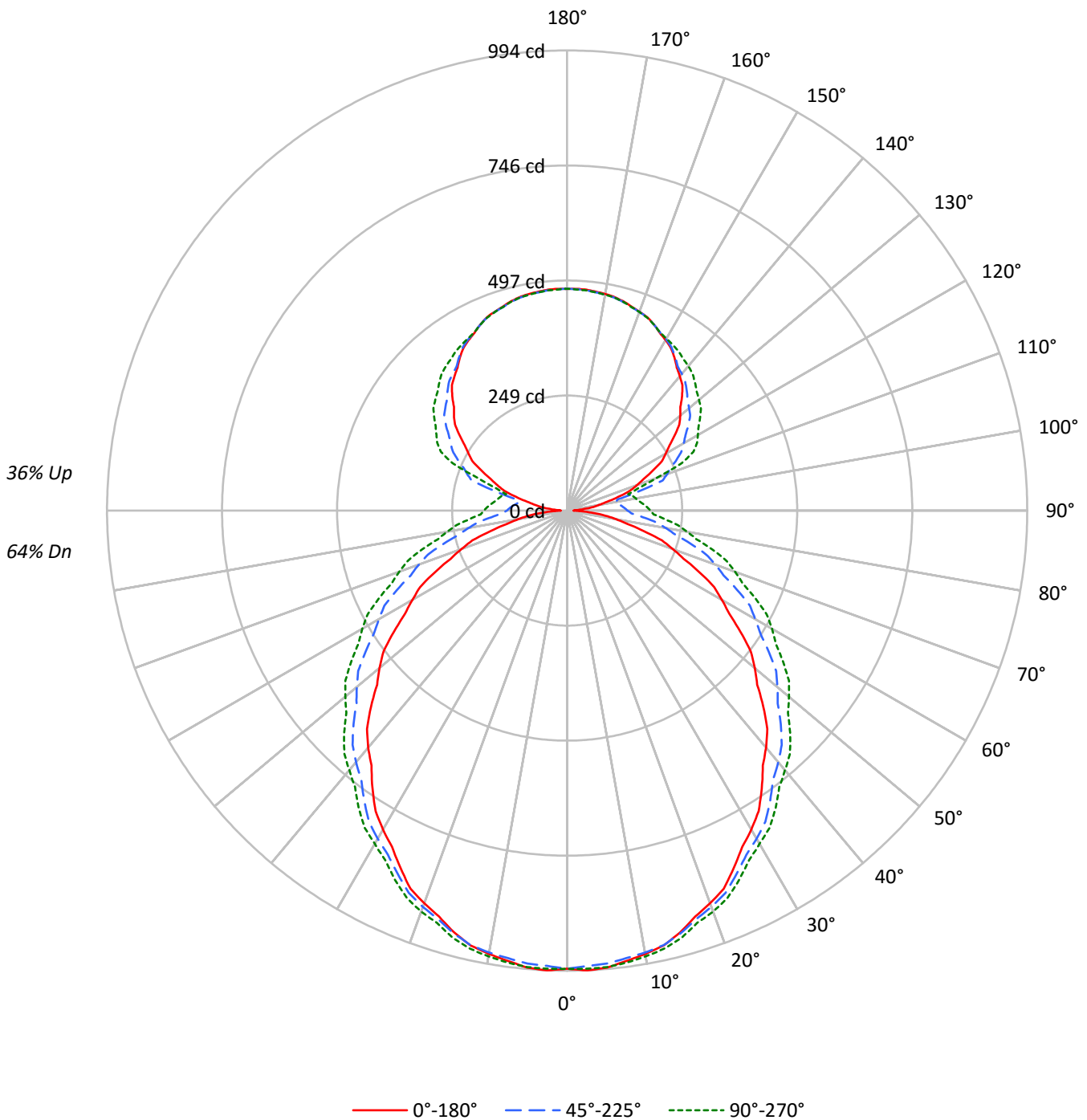
Input Watts (W): 46.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64
1	99	94	90	86	93	89	85	81	78	75	72	68	66	63	59	57	55	51
2	90	82	75	69	84	77	71	66	67	63	59	59	55	52	51	48	46	42
3	82	71	63	57	76	67	60	54	59	53	49	52	47	43	45	41	38	35
4	75	63	55	48	70	59	52	46	52	46	41	46	41	37	40	36	33	29
5	69	56	47	41	64	53	45	39	47	40	35	41	36	32	36	32	28	25
6	63	50	42	35	59	47	40	34	42	36	31	37	32	28	32	28	25	22
7	58	45	37	31	55	43	35	30	38	32	27	34	28	24	29	25	22	19
8	54	41	33	27	51	39	32	26	35	28	24	31	26	22	27	23	20	17
9	51	38	30	24	47	36	28	23	32	26	22	28	23	20	25	21	18	16
10	47	35	27	22	44	33	26	21	29	23	19	26	21	18	23	19	16	14

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

	0°	45°	90°
0°	10654	10654	10654
5°	10687	10385	10392
10°	10592	10146	10095
15°	10455	9874	9773
20°	10260	9565	9418
25°	10019	9208	9043
30°	9772	8886	8665
35°	9496	8547	8362
40°	9231	8238	8039
45°	8938	7941	7779
50°	8650	7648	7494
55°	8332	7348	7238
60°	8020	7044	6974
65°	7702	6718	6661
70°	7222	6352	6341
75°	6614	5933	6016
80°	5915	5522	5642
85°	5267	5241	5428



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.8	2.0
10°-20°	267.5	5.6
20°-30°	400.0	8.4
30°-40°	477.7	10.0
40°-50°	499.9	10.4
50°-60°	469.1	9.8
60°-70°	391.8	8.2
70°-80°	280.3	5.9
80°-90°	168.5	3.5
90°-100°	122.3	2.6
100°-110°	160.1	3.3
110°-120°	250.9	5.2
120°-130°	283.3	5.9
130°-140°	284.5	5.9
140°-150°	256.5	5.4
150°-160°	204.7	4.3
160°-170°	132.1	2.8
170°-180°	45.5	1.0
0°-30°	761.3	15.9
0°-40°	1239.1	25.9
0°-60°	2208.0	46.1
0°-90°	3048.6	63.7
90°-120°	533.2	11.1
90°-150°	1357.5	28.4
90°-180°	1740.0	36.3
0°-180°	4788.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	990	990	990	990	990	
5°	991	988	982	990	990	94
15°	943	946	946	956	955	266
25°	852	862	866	879	880	392
35°	733	750	764	780	785	458
45°	599	625	652	672	681	462
55°	457	493	532	560	569	409
65°	316	358	405	436	448	312
75°	171	222	276	310	325	183
85°	53	107	164	199	211	55
90°	14	71	130	167	180	11
95°	34	63	118	152	164	36
105°	115	144	159	128	136	121
115°	204	221	261	290	301	202
125°	284	288	319	342	351	254
135°	351	353	366	385	390	270
145°	404	405	406	415	420	253
155°	444	443	444	445	443	204
165°	468	467	467	469	467	132
175°	479	477	478	480	477	46
180°	479	479	479	479	479	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8
2.5°	994.1	993.6	992.9	992.4	991.8	990.7	989.2	987.7	986.1	984.6	986.1
5°	990.9	990.4	989.9	989.4	989.0	988.0	986.6	985.1	983.7	982.2	984.1
7.5°	981.1	981.3	981.4	981.4	981.5	980.9	979.5	978.1	976.7	975.3	977.7
10°	972.6	973.0	973.5	974.0	974.5	974.1	972.9	971.7	970.5	969.3	971.7
12.5°	962.2	962.8	963.5	964.2	964.9	964.8	964.0	963.1	962.3	961.6	963.8
15°	943.4	944.1	944.8	945.5	946.3	946.5	946.3	946.0	945.8	945.5	948.0
17.5°	919.7	921.1	922.6	924.0	925.4	926.1	926.1	925.9	925.8	925.7	927.9
20°	902.5	903.9	905.3	906.7	908.2	909.2	909.7	910.1	910.6	911.1	913.2
22.5°	884.3	885.7	887.2	888.7	890.1	891.1	891.8	892.5	893.2	893.8	896.5
25°	851.8	854.1	856.6	859.0	861.3	862.9	863.6	864.4	865.1	865.8	868.9
27.5°	819.0	821.7	824.4	827.2	829.9	832.0	833.6	835.1	836.6	838.2	840.9
30°	795.7	798.8	801.9	805.0	808.2	810.6	812.6	814.5	816.4	818.3	821.3
32.5°	769.8	773.3	776.8	780.3	783.8	786.8	789.3	791.8	794.3	796.8	799.9
35°	733.2	737.0	740.8	744.7	748.5	751.9	755.1	758.2	761.3	764.5	768.0
37.5°	694.3	698.7	703.0	707.3	711.6	715.7	719.5	723.3	727.1	731.0	735.1
40°	668.4	672.8	677.1	681.4	685.7	690.3	695.1	699.9	704.6	709.5	713.5
42.5°	640.0	645.3	650.5	655.8	661.1	666.2	671.2	676.2	681.2	686.2	690.6
45°	599.4	605.2	611.0	616.7	622.5	628.4	634.3	640.3	646.3	652.3	656.9
47.5°	557.0	563.5	570.1	576.6	583.0	589.8	596.6	603.5	610.3	617.2	622.3
50°	529.4	536.1	542.8	549.5	556.2	563.3	570.7	578.1	585.6	593.0	598.5
52.5°	500.0	507.2	514.3	521.3	528.5	536.1	544.3	552.5	560.6	568.9	574.6
55°	457.2	465.1	472.9	480.9	488.8	497.0	505.6	514.3	522.9	531.6	538.1
57.5°	415.3	423.6	431.8	440.1	448.3	457.2	466.6	476.0	485.4	494.9	501.4
60°	386.0	394.6	403.2	411.9	420.5	429.7	439.5	449.4	459.2	469.1	475.7
62.5°	358.4	367.2	376.0	384.8	393.6	403.3	413.7	424.1	434.4	444.9	451.5
65°	315.9	325.3	334.6	344.0	353.3	363.2	373.8	384.3	394.8	405.4	412.6
67.5°	272.7	282.7	292.6	302.5	312.4	322.8	333.5	344.3	355.0	365.8	373.6
70°	242.6	252.9	263.2	273.5	283.8	294.7	306.2	317.7	329.2	340.7	348.4
72.5°	215.0	225.3	235.6	245.9	256.2	267.3	279.2	291.0	302.9	314.8	322.7
75°	171.4	182.7	193.9	205.3	216.5	228.1	240.1	252.1	264.0	276.0	283.9
77.5°	133.5	144.8	156.2	167.5	178.9	190.6	202.7	214.8	226.9	238.9	247.2
80°	106.7	118.5	130.2	142.0	153.7	165.8	178.2	190.8	203.2	215.6	223.8
82.5°	83.4	95.4	107.3	119.2	131.2	143.5	156.1	168.7	181.4	194.1	202.2
85°	52.8	64.8	76.8	88.8	100.8	113.1	125.8	138.5	151.1	163.9	172.1
87.5°	28.8	40.9	52.9	65.0	77.1	89.4	101.8	114.2	126.7	139.1	147.3
90°	14.3	26.9	39.5	52.0	64.5	77.4	90.6	103.9	117.2	130.4	138.9
92.5°	19.8	30.2	40.5	50.9	61.2	72.8	85.6	98.5	111.2	124.1	132.5
95°	33.6	39.7	45.8	51.9	58.0	67.3	79.9	92.5	105.2	117.8	125.7
97.5°	54.2	61.2	68.1	75.1	82.1	88.3	93.9	99.4	104.9	110.4	118.2
100°	69.9	79.1	88.3	97.6	106.9	110.8	109.5	108.2	106.9	105.5	113.1
102.5°	87.8	95.9	103.9	111.9	119.9	122.6	120.0	117.3	114.7	112.0	116.8
105°	114.7	121.3	127.9	134.5	141.2	146.1	149.2	152.4	155.6	158.8	151.5
107.5°	142.0	147.6	153.2	158.8	164.4	172.6	183.5	194.4	205.3	216.2	212.3
110°	160.3	165.2	170.1	175.1	180.0	187.7	198.1	208.6	219.0	229.5	233.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	178.5	182.6	186.6	190.8	194.9	202.0	212.1	222.1	232.2	242.2	248.3
115°	204.4	207.7	211.0	214.4	217.8	224.1	233.5	242.7	252.1	261.4	268.0
117.5°	230.3	232.6	235.0	237.3	239.7	245.1	253.6	262.1	270.5	278.9	285.3
120°	245.7	247.6	249.5	251.4	253.3	258.3	266.4	274.6	282.7	290.9	297.0
122.5°	262.1	263.3	264.6	265.8	267.0	271.5	279.3	287.2	294.9	302.8	308.6
125°	283.7	284.3	284.9	285.6	286.2	290.2	297.5	304.7	312.0	319.2	324.4
127.5°	305.6	306.0	306.4	306.8	307.2	310.5	316.6	322.7	328.8	334.9	340.0
130°	319.2	319.6	320.0	320.4	320.8	323.6	328.7	333.8	338.9	344.0	348.9
132.5°	331.5	332.1	332.7	333.3	333.8	336.2	340.2	344.4	348.5	352.5	357.2
135°	351.3	351.6	351.8	352.0	352.2	353.9	356.8	359.7	362.7	365.7	370.2
137.5°	368.2	368.6	369.0	369.4	369.8	370.8	372.5	374.1	375.8	377.5	381.7
140°	378.7	379.1	379.6	380.1	380.6	381.3	382.3	383.3	384.2	385.2	389.0
142.5°	389.2	389.5	389.8	390.1	390.4	390.7	391.1	391.5	391.8	392.2	395.7
145°	403.9	404.3	404.6	404.9	405.2	405.4	405.6	405.8	405.9	406.1	408.1
147.5°	416.8	417.2	417.5	417.9	418.2	418.5	418.7	418.8	419.0	419.1	419.9
150°	425.3	425.6	425.8	426.0	426.3	426.4	426.6	426.7	426.9	427.1	427.2
152.5°	433.0	433.1	433.2	433.3	433.5	433.6	433.6	433.7	433.8	434.0	434.2
155°	443.8	443.6	443.5	443.4	443.2	443.1	443.2	443.3	443.4	443.5	443.9
157.5°	452.3	452.2	452.2	452.2	452.2	452.1	452.0	451.9	451.9	451.8	452.3
160°	457.3	457.2	457.2	457.1	457.0	456.9	456.9	456.8	456.7	456.6	457.1
162.5°	462.2	462.0	461.8	461.6	461.4	461.2	461.1	461.1	461.0	460.9	461.4
165°	468.0	467.8	467.5	467.3	467.1	466.9	466.8	466.8	466.7	466.6	467.2
167.5°	472.6	472.3	472.0	471.7	471.3	471.2	471.2	471.2	471.2	471.2	471.8
170°	475.2	474.8	474.5	474.2	473.9	473.7	473.7	473.7	473.7	473.7	474.4
172.5°	476.8	476.5	476.1	475.7	475.3	475.2	475.2	475.3	475.4	475.4	476.0
175°	479.0	478.6	478.2	477.8	477.4	477.3	477.4	477.4	477.5	477.6	478.2
177.5°	479.6	479.3	479.0	478.6	478.3	478.2	478.3	478.3	478.4	478.5	479.0
180°	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8
2.5°	987.7	989.2	990.7	991.4	991.2	991.0	990.9	990.6
5°	986.0	988.0	989.9	990.7	990.5	990.2	990.0	989.8
7.5°	980.1	982.5	984.9	986.0	985.7	985.4	985.1	984.8
10°	974.1	976.4	978.9	979.9	979.4	978.9	978.4	977.9
12.5°	965.9	968.1	970.3	971.2	970.7	970.3	969.8	969.3
15°	950.4	952.8	955.1	956.2	956.0	955.8	955.5	955.3
17.5°	930.0	932.2	934.4	935.3	934.9	934.6	934.3	933.9
20°	915.4	917.5	919.7	920.9	921.1	921.4	921.6	921.9
22.5°	899.3	902.0	904.8	906.0	905.9	905.8	905.6	905.5
25°	872.0	875.1	878.2	879.8	879.8	879.8	879.8	879.8
27.5°	843.5	846.2	848.9	850.3	850.6	850.7	851.0	851.1
30°	824.1	827.0	829.8	831.3	831.3	831.3	831.3	831.3
32.5°	803.0	806.0	809.1	810.9	811.4	812.0	812.6	813.2
35°	771.6	775.2	778.8	781.1	782.0	783.0	783.9	784.9
37.5°	739.2	743.2	747.3	749.7	750.5	751.2	752.0	752.8
40°	717.6	721.7	725.7	728.3	729.2	730.2	731.1	732.1
42.5°	695.1	699.5	704.0	706.9	708.2	709.6	710.9	712.3
45°	661.4	666.0	670.5	673.8	675.7	677.6	679.5	681.4
47.5°	627.4	632.6	637.6	641.0	642.5	644.0	645.4	646.9
50°	604.0	609.5	615.1	618.6	620.4	622.0	623.7	625.3
52.5°	580.3	586.0	591.7	595.6	597.6	599.7	601.7	603.8
55°	544.5	551.0	557.5	561.6	563.6	565.5	567.4	569.3
57.5°	507.9	514.4	520.9	525.4	527.6	529.8	532.1	534.3
60°	482.4	489.2	495.8	500.5	503.2	505.8	508.4	511.0
62.5°	458.3	465.0	471.7	476.3	478.7	481.2	483.6	486.1
65°	419.8	427.0	434.1	438.9	441.3	443.7	446.2	448.5
67.5°	381.4	389.3	397.1	402.1	404.1	406.2	408.1	410.1
70°	356.0	363.7	371.4	376.4	378.8	381.2	383.6	386.0
72.5°	330.6	338.4	346.3	351.4	353.8	356.2	358.6	361.0
75°	291.8	299.8	307.6	313.1	315.9	318.8	321.6	324.6
77.5°	255.6	264.0	272.3	277.6	279.7	281.9	284.2	286.4
80°	232.0	240.1	248.2	253.5	255.9	258.3	260.7	263.1
82.5°	210.4	218.5	226.6	232.0	234.3	236.7	239.1	241.5
85°	180.1	188.3	196.5	201.8	204.1	206.5	208.9	211.4
87.5°	155.5	163.7	171.9	177.2	179.7	182.0	184.5	187.0
90°	147.3	155.7	164.2	169.8	172.3	174.8	177.4	180.0
92.5°	140.9	149.4	157.9	163.3	165.6	167.9	170.2	172.5
95°	133.7	141.7	149.7	154.9	157.2	159.7	162.1	164.5
97.5°	126.0	133.7	141.6	146.6	149.1	151.6	154.1	156.5
100°	120.7	128.3	135.9	140.9	143.4	145.8	148.3	150.8
102.5°	121.6	126.4	131.3	134.9	137.4	140.0	142.5	145.0
105°	144.3	137.0	129.7	127.1	129.4	131.8	134.1	136.4
107.5°	208.5	204.6	200.8	194.6	186.2	177.8	169.4	160.9
110°	236.8	240.3	244.0	241.1	231.7	222.3	212.9	203.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	254.4	260.5	266.6	269.5	269.3	268.9	268.7	268.4
115°	274.5	281.1	287.6	292.0	294.2	296.4	298.7	301.0
117.5°	291.6	297.9	304.3	308.4	310.4	312.3	314.2	316.2
120°	303.2	309.3	315.4	319.3	321.0	322.7	324.4	326.1
122.5°	314.3	320.0	325.8	329.5	331.3	333.0	334.8	336.5
125°	329.6	334.8	340.0	343.5	345.3	347.1	349.0	350.9
127.5°	345.0	350.0	355.0	358.2	359.7	361.2	362.6	364.1
130°	353.8	358.6	363.5	366.6	367.9	369.2	370.4	371.7
132.5°	361.9	366.5	371.2	374.3	375.7	377.1	378.5	379.9
135°	374.8	379.3	383.8	386.6	387.5	388.5	389.5	390.5
137.5°	385.8	390.0	394.1	396.7	397.8	398.9	399.9	400.9
140°	392.9	396.9	400.8	403.2	404.3	405.4	406.4	407.4
142.5°	399.2	402.6	406.1	408.3	409.2	410.3	411.2	412.2
145°	410.3	412.3	414.4	415.9	416.8	417.8	418.7	419.8
147.5°	420.6	421.3	422.1	422.6	423.2	423.7	424.1	424.7
150°	427.4	427.5	427.7	427.9	428.2	428.4	428.6	428.9
152.5°	434.5	434.7	435.1	435.1	434.8	434.5	434.3	434.0
155°	444.3	444.7	445.0	445.0	444.5	444.0	443.5	443.1
157.5°	452.7	453.2	453.7	453.6	453.0	452.4	451.8	451.1
160°	457.6	458.0	458.5	458.5	458.0	457.4	456.9	456.3
162.5°	462.0	462.6	463.0	463.1	462.6	462.1	461.6	461.1
165°	467.9	468.5	469.1	469.1	468.6	468.1	467.5	467.0
167.5°	472.5	473.0	473.6	473.6	473.0	472.5	471.8	471.2
170°	475.0	475.6	476.3	476.3	475.6	475.0	474.4	473.7
172.5°	476.7	477.3	477.9	477.9	477.2	476.5	475.9	475.2
175°	478.7	479.3	479.8	479.8	479.2	478.6	477.9	477.3
177.5°	479.5	480.0	480.5	480.5	479.8	479.2	478.6	477.9
180°	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0

(END OF REPORT)