

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: P332918-840

Luminaire Tested: **S124RDIP-S575D1035U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332918-840
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: S124RDIP-S575D1035U840-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6106.1 lumens
Efficiency: N/A
Efficacy: 137.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

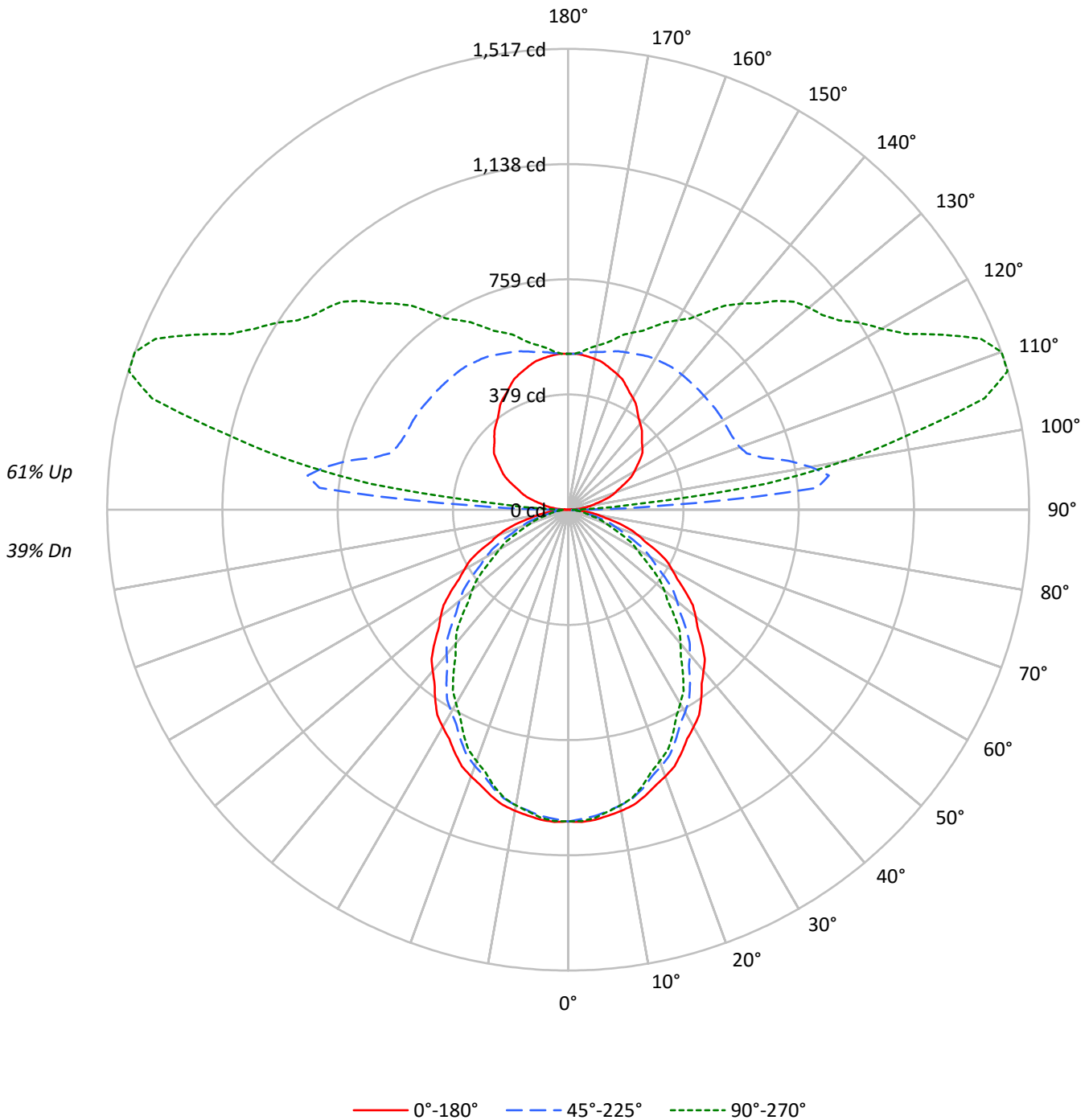
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332918-840

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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	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	96	91	88	84	87	83	80	77	68	66	64	54	52	51	41	40	39	33
2	87	80	74	69	79	73	68	64	60	56	53	47	45	43	36	35	33	28
3	80	70	63	58	72	64	58	53	53	48	45	42	39	36	32	30	29	24
4	73	62	55	49	66	57	50	45	47	42	38	38	34	31	29	27	25	21
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	24	22	18
6	62	50	42	36	56	46	39	34	38	33	29	31	27	24	24	21	19	16
7	57	45	37	32	52	41	34	30	34	29	25	28	24	21	22	19	17	14
8	53	41	33	28	48	38	31	26	31	26	23	25	22	19	20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20	23	20	17	18	16	14	12
10	46	34	27	22	42	31	25	21	26	22	18	22	18	15	17	14	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8285	8285	8285
5°	8304	8203	8253
10°	8252	8104	8104
15°	8157	7934	7875
20°	8027	7710	7568
25°	7861	7448	7259
30°	7699	7171	6871
35°	7521	6885	6482
40°	7304	6559	6062
45°	7106	6235	5634
50°	6880	5863	5181
55°	6636	5475	4690
60°	6370	5050	4187
65°	6124	4518	3692
70°	5769	3932	3135
75°	5321	3260	2548
80°	4640	2483	2338
85°	3927	2251	2112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.4	1.6
10°-20°	268.8	4.4
20°-30°	388.2	6.4
30°-40°	440.0	7.2
40°-50°	424.9	7.0
50°-60°	353.4	5.8
60°-70°	244.0	4.0
70°-80°	123.7	2.0
80°-90°	34.6	0.6
90°-100°	370.6	6.1
100°-110°	771.4	12.6
110°-120°	690.9	11.3
120°-130°	581.2	9.5
130°-140°	484.6	7.9
140°-150°	370.2	6.1
150°-160°	260.2	4.3
160°-170°	153.1	2.5
170°-180°	49.8	0.8
0°-30°	753.5	12.3
0°-40°	1193.5	19.5
0°-60°	1971.8	32.3
0°-90°	2374.0	38.9
90°-120°	1833.0	30.0
90°-150°	3269.0	53.5
90°-180°	3732.0	61.1
0°-180°	6106.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1026	1026	1026	1026	1026	
5°	1025	1021	1012	1020	1018	97
15°	976	968	949	948	942	275
25°	882	867	836	823	815	406
35°	763	737	699	673	658	477
45°	622	592	546	509	494	480
55°	472	439	389	350	333	422
65°	321	286	236	204	193	317
75°	171	141	104	87	82	180
85°	42	28	24	23	23	48
90°	1	8	18	20	21	4
95°	33	105	822	407	246	37
105°	118	171	661	1424	1418	126
115°	208	261	590	1133	1362	206
125°	289	344	587	964	1087	258
135°	344	409	582	856	972	266
145°	396	454	579	722	794	249
155°	451	486	563	637	664	208
165°	491	506	539	571	580	139
175°	512	513	517	524	522	49
180°	513	513	513	513	513	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1028.9	1028.2	1027.7	1027.1	1026.6	1025.5	1024.0	1022.5	1020.9	1019.4	1020.9
5°	1024.7	1024.0	1023.3	1022.6	1022.0	1020.6	1018.4	1016.3	1014.2	1012.2	1013.9
7.5°	1015.4	1014.7	1014.0	1013.3	1012.5	1010.8	1008.0	1005.3	1002.6	999.9	1001.0
10°	1006.6	1005.8	1004.9	1004.0	1003.2	1001.2	998.0	994.8	991.7	988.6	989.3
12.5°	995.3	994.3	993.3	992.3	991.3	989.0	985.2	981.5	977.9	974.1	974.5
15°	976.0	974.4	972.9	971.3	969.7	966.7	962.4	958.1	953.6	949.3	949.0
17.5°	952.6	950.3	948.1	945.7	943.5	939.8	934.5	929.3	924.0	918.8	917.9
20°	934.3	932.1	929.8	927.6	925.2	921.2	915.2	909.3	903.3	897.5	896.1
22.5°	914.2	911.7	909.2	906.6	904.0	899.6	893.2	886.9	880.5	874.1	872.0
25°	882.5	879.4	876.2	873.0	869.9	864.7	857.6	850.4	843.2	836.2	833.1
27.5°	849.2	845.3	841.3	837.4	833.3	827.6	819.9	812.3	804.7	797.0	793.3
30°	825.9	821.5	817.2	812.8	808.5	802.1	794.0	785.8	777.5	769.3	765.0
32.5°	801.4	796.5	791.5	786.6	781.7	775.0	766.5	758.0	749.5	741.0	736.0
35°	763.1	757.5	751.8	746.3	740.7	733.6	724.8	716.1	707.3	698.6	692.7
37.5°	722.1	716.3	710.5	704.8	698.9	691.3	681.6	671.9	662.3	652.6	645.9
40°	693.1	687.3	681.6	675.8	670.0	662.2	652.3	642.3	632.4	622.4	615.0
42.5°	665.4	659.4	653.4	647.3	641.3	633.1	622.7	612.3	602.0	591.6	584.1
45°	622.4	615.9	609.5	603.0	596.5	588.0	577.5	567.1	556.6	546.1	537.6
47.5°	577.9	571.3	564.5	557.8	551.2	542.4	531.5	520.7	509.8	498.9	490.0
50°	547.8	540.9	534.1	527.3	520.5	511.5	500.3	489.2	478.0	466.8	458.1
52.5°	516.9	510.3	503.6	497.0	490.2	481.2	469.7	458.3	446.8	435.4	426.5
55°	471.5	464.5	457.6	450.5	443.5	434.3	423.0	411.7	400.3	389.0	379.9
57.5°	426.6	419.3	412.0	404.8	397.5	388.3	377.1	365.9	354.8	343.6	334.4
60°	394.5	387.5	380.5	373.5	366.6	357.5	346.3	335.1	324.0	312.8	303.7
62.5°	365.6	358.3	351.0	343.8	336.5	327.2	315.7	304.3	292.8	281.3	273.0
65°	320.6	313.2	305.6	298.1	290.5	281.2	270.0	258.9	247.7	236.5	229.0
67.5°	274.0	266.7	259.5	252.4	245.2	236.4	226.0	215.6	205.3	194.9	188.4
70°	244.4	237.0	229.7	222.4	215.1	206.4	196.4	186.5	176.5	166.6	160.9
72.5°	213.0	206.3	199.7	193.1	186.4	178.4	169.1	159.7	150.2	140.8	135.9
75°	170.6	164.1	157.6	151.2	144.7	137.3	129.2	120.9	112.7	104.5	100.5
77.5°	127.4	122.0	116.5	111.0	105.5	99.5	92.8	86.2	79.6	72.9	70.6
80°	99.8	94.7	89.7	84.6	79.6	74.4	69.2	63.9	58.7	53.4	52.9
82.5°	75.9	71.3	66.7	62.0	57.4	53.5	50.5	47.5	44.5	41.5	41.1
85°	42.4	39.0	35.4	31.9	28.5	26.5	26.0	25.4	24.8	24.3	24.0
87.5°	14.6	13.9	13.4	12.5	11.6	11.0	12.0	11.9	12.1	12.4	12.1
90°	1.0	3.0	6.1	7.1	8.1	8.1	14.1	14.1	16.2	18.2	17.2
92.5°	11.5	16.8	26.3	38.5	53.2	74.2	125.4	203.7	279.8	319.8	266.4
95°	33.2	36.3	46.4	59.5	83.7	126.0	213.7	379.1	620.1	821.6	844.9
97.5°	59.7	59.7	68.4	80.5	101.2	136.7	204.3	340.7	580.3	865.4	1061.4
100°	76.6	76.6	83.7	95.7	114.9	147.2	206.7	320.6	526.2	810.5	1068.6
102.5°	92.7	94.3	100.6	111.9	130.3	160.9	214.7	315.0	490.0	742.0	1008.1
105°	118.0	121.0	126.0	138.1	156.2	185.5	233.9	317.6	458.7	661.4	898.3
107.5°	145.8	147.8	152.8	165.7	183.1	211.9	256.3	332.4	453.0	616.2	809.5
110°	164.3	166.3	171.4	183.5	201.7	228.8	273.2	343.8	454.6	600.9	765.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	182.1	184.1	190.0	201.3	219.3	246.6	289.3	355.9	459.5	593.6	740.2
115°	207.7	210.7	217.7	227.8	247.0	274.2	314.6	375.1	468.8	589.8	716.8
117.5°	234.3	237.1	243.4	254.5	272.4	300.6	338.9	394.6	478.7	588.8	706.3
120°	252.1	254.1	261.2	272.2	289.3	317.6	355.9	408.3	485.9	588.8	700.6
122.5°	268.2	270.1	277.2	287.5	306.3	333.7	372.0	421.2	493.2	587.9	694.2
125°	289.3	293.4	299.4	310.5	329.6	357.9	394.2	440.6	504.1	586.7	683.6
127.5°	308.1	311.3	318.6	331.2	351.2	379.7	414.8	457.3	512.7	584.5	669.2
130°	318.6	322.7	330.6	345.8	365.0	394.2	428.5	467.8	519.2	583.7	660.4
132.5°	329.0	332.2	342.7	357.1	377.9	405.5	439.8	478.3	524.8	582.9	652.3
135°	343.8	347.8	357.9	375.1	396.2	422.4	455.7	492.0	533.3	581.7	640.2
137.5°	358.5	362.3	373.4	389.7	411.7	436.8	467.8	501.7	538.4	581.5	629.7
140°	369.0	372.0	383.1	400.2	421.4	445.7	475.8	508.1	542.4	580.7	624.1
142.5°	380.3	383.3	393.5	409.9	430.3	453.6	483.1	512.9	545.6	580.7	619.2
145°	396.2	399.2	409.3	423.4	442.6	464.7	491.0	518.2	547.4	578.7	611.0
147.5°	414.1	415.2	424.0	438.6	454.4	474.4	499.1	522.8	548.5	575.0	603.5
150°	425.5	426.5	434.5	446.7	461.7	480.9	503.1	525.2	548.5	572.6	597.8
152.5°	436.0	436.2	444.2	455.4	469.0	486.6	506.3	526.8	546.8	568.6	591.4
155°	450.6	451.6	457.7	467.8	478.9	494.0	511.1	528.3	544.4	562.6	581.7
157.5°	464.9	464.9	470.6	478.5	488.2	500.1	514.5	528.3	541.8	556.3	571.8
160°	473.8	473.8	477.9	484.9	493.0	504.1	516.1	528.3	539.4	551.5	564.6
162.5°	481.9	481.1	484.3	490.6	497.9	506.5	517.8	528.3	536.9	546.6	558.2
165°	491.0	491.0	493.0	498.1	503.1	509.1	518.2	526.2	532.3	539.4	547.4
167.5°	500.1	499.1	500.1	503.9	506.8	511.3	518.0	523.8	527.5	532.1	537.8
170°	504.1	503.1	504.1	507.2	509.1	512.1	517.2	522.2	524.2	527.3	531.3
172.5°	508.1	507.2	507.3	509.5	510.7	512.9	516.3	520.6	521.0	522.4	525.6
175°	512.1	511.1	511.1	512.1	513.1	513.1	515.1	518.2	517.2	517.2	519.2
177.5°	513.9	513.1	512.3	513.1	513.1	513.1	513.9	515.5	513.9	513.9	514.7
180°	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1022.5	1024.0	1025.5	1026.2	1026.1	1025.9	1025.8	1025.7
5°	1015.6	1017.4	1019.2	1019.9	1019.5	1019.2	1018.8	1018.4
7.5°	1002.1	1003.2	1004.4	1004.6	1004.1	1003.5	1003.0	1002.4
10°	990.0	990.7	991.4	991.4	990.7	990.0	989.3	988.6
12.5°	974.9	975.3	975.8	975.5	974.5	973.6	972.6	971.6
15°	948.6	948.3	947.9	947.2	945.8	944.6	943.4	942.2
17.5°	916.9	915.8	914.8	913.4	911.6	909.8	907.9	906.1
20°	894.6	893.2	891.8	890.0	887.8	885.4	883.2	880.9
22.5°	870.0	867.9	865.8	863.8	861.9	860.1	858.3	856.4
25°	830.2	827.2	824.3	821.9	820.1	818.4	816.7	814.9
27.5°	789.6	786.0	782.3	779.2	776.7	774.2	771.7	769.2
30°	760.6	756.2	751.8	748.3	745.5	742.7	739.9	737.1
32.5°	730.9	725.9	720.7	716.9	714.3	711.7	708.9	706.3
35°	686.7	680.8	674.9	670.3	667.2	664.0	660.9	657.7
37.5°	639.2	632.7	626.0	621.2	617.9	614.8	611.7	608.5
40°	607.7	600.4	593.0	587.8	584.6	581.5	578.3	575.2
42.5°	576.6	569.2	561.7	556.3	553.0	549.8	546.4	543.2
45°	529.1	520.5	511.9	506.0	502.9	499.8	496.7	493.5
47.5°	481.1	472.2	463.3	457.2	453.7	450.3	446.9	443.3
50°	449.3	440.6	431.8	425.9	422.5	419.2	415.9	412.5
52.5°	417.6	408.7	399.9	393.7	390.2	386.8	383.3	379.9
55°	370.8	361.7	352.6	346.5	343.2	339.8	336.5	333.2
57.5°	325.1	315.9	306.7	300.8	298.3	295.8	293.3	290.7
60°	294.6	285.5	276.4	270.5	267.7	264.9	262.2	259.3
62.5°	264.6	256.2	247.8	242.5	240.2	238.0	235.8	233.6
65°	221.6	214.0	206.5	201.7	199.7	197.5	195.4	193.3
67.5°	182.0	175.5	169.1	164.7	162.4	160.1	157.7	155.4
70°	155.1	149.4	143.5	139.8	138.0	136.3	134.5	132.8
72.5°	131.0	126.0	121.1	117.9	116.2	114.6	113.0	111.4
75°	96.4	92.5	88.5	85.9	84.8	83.8	82.8	81.7
77.5°	68.3	65.9	63.5	62.2	61.9	61.6	61.3	61.0
80°	52.4	51.9	51.3	51.0	50.8	50.6	50.5	50.3
82.5°	40.7	40.3	40.0	39.7	39.5	39.3	39.2	39.0
85°	23.6	23.3	22.9	22.8	22.8	22.8	22.8	22.8
87.5°	12.1	12.2	12.3	12.3	12.6	12.9	12.9	13.0
90°	18.2	19.2	20.2	20.2	21.2	22.2	21.2	21.2
92.5°	198.0	149.1	118.6	98.4	86.5	81.1	77.7	77.7
95°	747.0	590.8	455.7	357.9	308.5	277.2	259.1	246.0
97.5°	1103.8	1045.6	947.1	841.8	769.4	708.7	678.5	657.5
100°	1215.9	1236.0	1186.6	1112.0	1024.3	962.8	932.5	924.5
102.5°	1210.2	1310.2	1324.5	1293.4	1239.6	1195.1	1163.3	1156.8
105°	1129.1	1303.5	1403.3	1444.7	1446.7	1438.7	1424.5	1418.5
107.5°	1014.0	1199.7	1340.3	1430.2	1480.0	1503.0	1513.1	1515.7
110°	944.6	1119.0	1265.3	1376.1	1447.7	1490.1	1508.2	1517.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	893.8	1048.0	1186.2	1297.1	1378.4	1429.6	1455.0	1469.7
115°	842.8	966.8	1084.8	1181.5	1261.2	1321.7	1353.9	1362.0
117.5°	817.8	920.5	1013.2	1095.3	1163.3	1214.1	1246.7	1252.9
120°	806.5	900.3	981.0	1052.5	1109.9	1154.4	1180.5	1191.6
122.5°	796.9	887.4	960.8	1023.5	1072.1	1109.9	1132.2	1143.3
125°	780.3	867.0	936.5	992.0	1032.4	1061.6	1080.8	1086.8
127.5°	760.1	843.0	912.4	965.0	1005.5	1031.6	1047.6	1053.7
130°	744.1	823.6	892.2	945.6	986.9	1012.2	1028.3	1034.4
132.5°	727.1	801.9	868.8	922.3	962.8	991.2	1006.5	1012.6
135°	703.7	769.2	830.7	881.1	921.5	949.7	965.8	971.9
137.5°	682.6	738.0	789.8	835.4	873.0	900.9	914.2	921.5
140°	670.4	717.8	763.2	805.5	840.8	863.0	877.1	885.1
142.5°	659.1	700.8	739.8	776.5	807.7	828.3	840.8	846.5
145°	643.2	677.5	707.7	736.0	761.1	778.3	788.4	793.5
147.5°	630.1	657.3	681.6	703.7	722.3	737.0	744.7	746.4
150°	622.1	645.2	665.4	683.6	699.6	712.8	718.8	719.8
152.5°	613.2	633.1	651.7	666.6	680.3	690.9	694.6	695.6
155°	599.9	616.0	631.1	643.2	653.3	661.4	664.4	664.4
157.5°	585.5	599.1	611.8	621.5	629.0	635.1	636.9	636.9
160°	576.6	587.7	598.8	606.9	613.0	619.0	620.1	620.1
162.5°	567.7	577.2	585.9	593.2	597.6	603.7	604.7	603.9
165°	555.5	561.6	568.6	573.6	577.6	581.7	580.7	579.7
167.5°	543.6	548.3	553.9	556.9	559.0	561.6	561.4	560.6
170°	536.3	539.4	543.4	546.4	548.5	549.5	548.5	548.5
172.5°	529.9	532.1	534.5	536.7	538.0	539.0	538.0	536.3
175°	521.2	522.2	524.2	524.2	524.2	526.2	524.2	522.2
177.5°	515.5	516.3	516.3	517.2	516.3	517.2	515.5	513.9
180°	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1

(END OF REPORT)