

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: P333846

Luminaire Tested: **SA2XXRDP-C485D830-4F0-1E-UDD-A**

Issue Date: 10/11/2019

Test Information

Test Method: LM-79-08
Report Number: P333846
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)
Test Lab: INNOVATIONS CENTER
Issue Date: 10/11/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDP-C485D830-4F0-1E-UDD-A
Description: DEFINE 2 REGRESSED DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER
PENDANT/SURFACE/WALL MOUNT, 485 LUMENS PER FOOT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

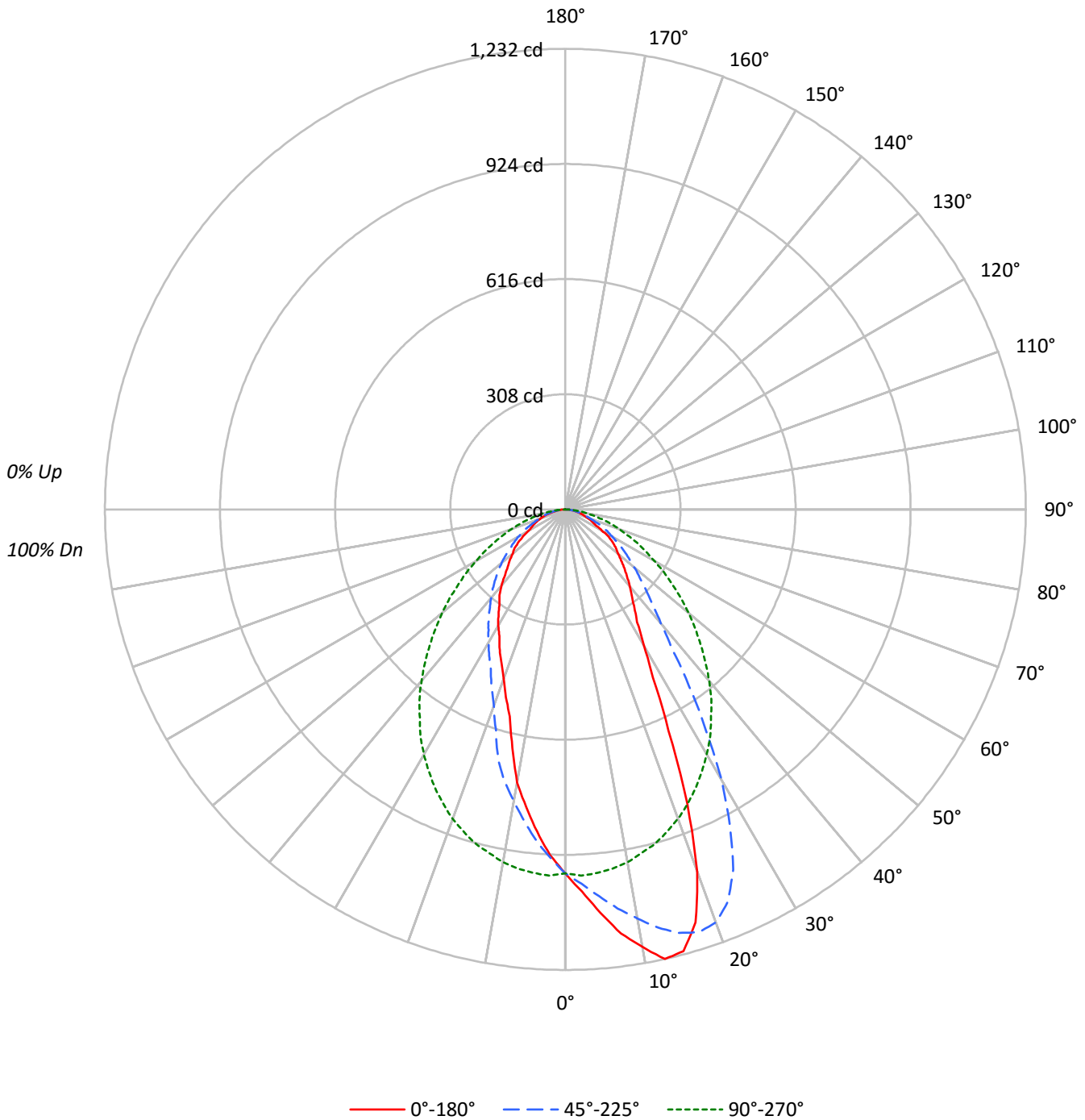
Lumens per Lamp: N/A
Luminaire Lumens: 1683.0 lumens
Efficiency: N/A
Efficacy: 89.5 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 18.8
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	39
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	41	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	15724	15724	15724
5°	17562	15823	14029
10°	19485	15713	12162
15°	20443	15482	9583
20°	17723	15141	8292
25°	11622	14674	7404
30°	7823	14108	6701
35°	6337	13393	6043
40°	5634	12617	5592
45°	5099	11707	4991
50°	4642	10803	4624
55°	4363	9802	4307
60°	3649	8883	3607
65°	3075	8069	3492
70°	2842	7204	3290
75°	2658	6269	3038
80°	2455	5160	2706
85°	2260	4076	2390



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.4	5.5
10°-20°	257.8	15.3
20°-30°	331.8	19.7
30°-40°	314.8	18.7
40°-50°	269.7	16.0
50°-60°	205.5	12.2
60°-70°	129.6	7.7
70°-80°	64.7	3.8
80°-90°	16.6	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	682.1	40.5
0°-40°	996.9	59.2
0°-60°	1472.1	87.5
0°-90°	1683.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1683.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	974	974	974	974	974	
5°	1084	1039	976	890	866	107
15°	1223	1173	926	693	573	332
25°	652	1063	824	472	416	308
35°	322	578	680	358	307	205
45°	223	305	513	264	219	173
55°	155	190	348	179	153	136
65°	80	108	211	108	91	81
75°	43	48	100	55	49	45
85°	12	12	22	13	13	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9
2.5°	1023.3	1024.3	1025.4	1023.0	1023.0	1021.0	1016.6	1013.2	1003.7	1002.4	1002.4
5°	1083.6	1082.9	1084.2	1079.8	1073.8	1072.4	1066.0	1057.5	1048.7	1038.9	1036.9
7.5°	1144.5	1140.4	1138.7	1140.8	1134.3	1125.5	1114.7	1104.5	1089.3	1076.8	1069.0
10°	1188.5	1199.6	1192.9	1181.0	1183.4	1167.5	1159.0	1144.5	1132.3	1111.0	1106.2
12.5°	1231.8	1234.5	1233.5	1228.1	1223.7	1213.9	1201.7	1189.5	1164.4	1145.8	1126.2
15°	1223.0	1229.4	1231.1	1229.1	1230.8	1230.1	1224.0	1213.5	1193.9	1172.9	1154.6
17.5°	1158.0	1165.5	1171.6	1177.0	1185.4	1202.0	1207.1	1209.1	1201.0	1186.1	1170.9
20°	1031.5	1024.0	1055.1	1071.0	1084.6	1118.4	1147.5	1158.7	1176.6	1176.3	1172.9
22.5°	852.1	856.2	885.3	904.9	950.9	984.8	1018.9	1068.7	1107.6	1136.4	1154.0
25°	652.4	665.3	694.7	720.5	764.5	827.4	884.6	950.9	1013.5	1062.9	1110.0
27.5°	507.6	509.3	536.0	562.1	589.2	643.6	720.1	799.6	889.0	953.3	1034.5
30°	419.6	417.6	427.4	442.0	464.3	504.2	558.4	636.2	725.2	836.2	935.0
32.5°	357.4	358.0	364.8	374.6	392.2	415.9	448.7	508.3	591.2	699.8	820.0
35°	321.5	321.1	326.6	334.3	342.1	359.4	384.8	417.9	475.8	577.7	696.1
37.5°	291.7	293.4	295.8	300.8	310.3	320.5	336.4	359.7	403.7	467.0	573.3
40°	267.3	268.0	271.7	275.8	280.9	288.3	300.8	318.8	348.9	396.9	469.7
42.5°	245.0	245.7	248.0	251.8	255.5	262.9	272.8	287.6	310.7	345.5	402.4
45°	223.3	223.3	225.7	227.4	231.8	238.6	247.0	259.9	276.8	304.6	344.5
47.5°	202.4	202.4	204.1	207.1	210.1	215.6	224.4	235.2	247.4	270.0	305.6
50°	184.8	185.1	186.1	188.5	190.2	194.9	201.3	210.5	223.3	239.9	268.4
52.5°	170.6	170.2	171.6	172.2	173.3	176.3	180.7	188.5	199.7	213.5	235.9
55°	155.0	153.6	155.7	157.4	158.4	159.7	162.4	167.5	177.3	189.5	207.1
57.5°	136.7	136.0	137.1	138.7	141.8	145.2	146.9	150.3	155.3	164.8	183.4
60°	113.0	113.0	116.1	117.1	120.8	125.5	130.3	133.0	138.1	143.8	156.7
62.5°	92.0	92.4	93.4	94.4	96.1	102.2	109.3	116.1	120.8	126.2	133.7
65°	80.5	81.2	81.2	81.9	83.2	84.6	87.3	92.0	100.5	108.3	114.7
67.5°	70.4	70.4	70.7	71.4	71.7	73.4	74.4	76.8	78.5	87.3	96.1
70°	60.2	61.3	60.9	61.6	61.9	62.6	64.0	65.0	68.0	69.7	74.4
72.5°	50.8	51.4	51.4	51.8	52.8	52.8	53.8	54.8	56.5	57.9	59.9
75°	42.6	42.3	42.6	43.3	43.7	44.0	44.0	45.3	46.4	47.7	49.4
77.5°	34.5	34.9	34.9	34.9	34.9	35.5	35.5	36.2	37.2	37.9	38.9
80°	26.4	26.7	26.4	26.7	27.1	27.4	27.1	27.4	28.4	29.1	29.1
82.5°	19.0	19.0	19.3	19.3	19.3	19.3	20.0	20.0	20.6	20.3	20.6
85°	12.2	11.8	11.8	11.8	12.2	12.5	12.2	12.2	12.5	12.5	12.5
87.5°	5.4	5.8	5.8	5.8	5.8	5.8	5.8	6.1	5.8	6.1	5.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9
2.5°	1003.0	1000.3	998.0	991.9	988.8	982.0	981.0	980.7	971.9	963.4	961.1
5°	1031.5	1026.0	1017.9	1008.4	998.6	988.5	981.7	976.3	962.8	949.9	942.5
7.5°	1059.5	1049.7	1036.9	1020.6	1006.7	990.5	979.3	969.2	950.6	933.7	922.5
10°	1091.7	1072.7	1054.1	1029.4	1010.1	991.2	973.6	958.4	936.7	912.3	895.1
12.5°	1111.7	1090.3	1062.9	1038.9	1012.5	987.1	962.1	941.4	915.0	889.7	868.3
15°	1129.3	1106.9	1075.8	1041.3	1009.1	977.6	950.6	926.2	893.0	862.9	837.9
17.5°	1145.5	1114.7	1082.6	1042.6	1007.1	968.8	934.7	904.2	868.0	832.5	804.0
20°	1152.6	1122.1	1083.6	1043.6	999.6	952.6	915.0	881.2	841.6	802.0	768.2
22.5°	1148.2	1126.2	1082.2	1032.5	987.1	937.4	893.7	853.1	808.1	767.5	726.9
25°	1125.2	1117.1	1076.5	1024.3	972.9	915.7	866.7	823.7	773.6	730.3	687.6
27.5°	1082.9	1094.7	1066.0	1009.5	954.0	892.4	838.9	790.5	739.4	691.0	648.4
30°	1015.9	1056.2	1045.3	993.9	929.9	869.7	807.8	756.7	701.2	651.1	609.1
32.5°	924.2	997.3	1013.2	972.2	905.6	837.9	772.2	721.5	662.9	609.5	568.9
35°	825.7	925.2	970.9	943.5	877.1	805.7	738.7	679.5	621.3	569.2	528.6
37.5°	709.0	841.6	912.0	909.0	845.7	772.9	700.2	641.6	581.7	530.3	488.0
40°	595.9	742.8	841.9	863.9	812.5	732.3	658.5	598.6	540.4	490.3	439.9
42.5°	494.4	640.6	768.2	810.5	772.2	692.7	618.6	555.3	499.1	452.4	400.7
45°	416.2	544.2	678.5	746.9	724.2	650.4	572.2	512.7	459.6	418.6	369.2
47.5°	360.4	453.5	588.5	677.8	675.1	605.1	527.2	470.0	420.0	382.1	340.1
50°	314.0	392.5	502.5	607.4	616.2	559.7	486.6	430.1	384.1	343.8	311.7
52.5°	272.4	333.7	429.8	529.3	558.4	511.3	440.9	389.8	345.5	309.3	282.9
55°	237.2	287.3	362.4	456.5	494.4	459.9	396.9	348.2	312.0	280.9	257.2
57.5°	206.4	245.7	308.3	387.1	430.1	406.8	353.0	312.7	280.5	251.4	232.5
60°	177.7	208.5	259.6	322.8	371.6	356.3	312.0	275.1	248.7	224.4	206.8
62.5°	150.6	176.0	217.9	266.3	310.0	305.9	271.7	242.3	220.0	198.3	184.1
65°	125.5	144.8	179.0	219.3	255.2	258.2	232.1	211.2	190.5	172.9	159.7
67.5°	103.9	117.1	142.8	178.3	205.7	215.2	197.6	180.7	163.8	149.6	137.7
70°	84.3	94.4	112.0	139.4	164.1	174.3	165.1	152.6	138.4	127.2	117.4
72.5°	64.3	74.1	86.0	104.2	124.5	135.7	134.0	125.9	115.1	106.3	97.1
75°	51.4	54.5	63.3	76.8	93.4	102.9	105.2	100.5	91.4	84.3	78.8
77.5°	39.9	42.0	46.7	54.8	66.3	74.8	78.5	77.8	71.1	66.3	61.3
80°	30.5	31.5	33.5	36.5	44.7	53.1	55.5	55.5	51.1	49.4	44.3
82.5°	21.3	22.0	23.0	24.4	27.1	34.2	36.9	37.6	35.2	32.8	29.1
85°	13.2	12.9	13.5	14.6	15.2	17.3	21.3	22.0	21.3	18.6	17.6
87.5°	5.8	6.1	6.1	5.8	6.1	6.4	8.1	9.8	8.5	7.4	6.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9
2.5°	956.7	954.3	949.9	943.1	939.1	932.0	927.2	929.9	930.6	929.9	929.3
5°	934.3	927.2	917.4	907.9	899.1	889.7	884.2	881.9	877.1	874.4	873.1
7.5°	909.0	898.5	884.6	869.4	855.1	841.6	835.5	830.8	822.0	817.2	812.8
10°	879.8	860.6	846.7	825.0	811.8	792.5	779.3	779.7	766.5	759.0	753.6
12.5°	847.7	826.0	800.7	781.7	762.1	747.5	731.0	722.8	708.6	701.5	684.6
15°	811.5	786.8	762.4	736.0	717.4	693.4	670.4	642.3	619.6	600.0	594.6
17.5°	772.9	742.5	718.4	691.4	662.3	618.6	590.2	572.9	559.4	549.2	541.1
20°	733.0	701.8	675.8	629.1	586.1	558.7	539.1	526.6	512.3	501.2	495.1
22.5°	691.0	658.2	620.3	566.8	535.7	515.0	498.1	483.2	474.8	466.7	461.2
25°	651.8	616.2	557.7	521.8	494.7	471.7	459.6	450.8	440.6	428.8	423.3
27.5°	610.8	554.3	510.0	483.9	456.2	441.6	431.1	416.6	407.4	403.0	396.9
30°	563.8	507.3	474.4	445.3	427.1	410.5	397.6	390.2	381.4	372.2	368.5
32.5°	511.3	469.0	437.9	414.9	396.3	382.7	373.3	360.1	354.3	349.6	340.8
35°	469.7	435.5	406.8	387.1	369.5	358.0	346.2	339.1	327.6	322.8	319.8
37.5°	431.8	402.0	380.4	358.7	345.2	331.6	324.9	313.0	308.6	301.2	295.1
40°	400.7	371.6	350.9	334.0	318.4	309.0	299.8	290.7	283.2	280.2	272.4
42.5°	368.9	346.5	325.9	306.9	297.8	287.6	275.5	269.4	261.6	256.2	252.1
45°	340.1	319.1	301.5	286.3	274.8	264.3	256.8	245.7	241.3	231.5	227.4
47.5°	314.7	294.4	277.5	262.6	251.1	245.0	234.2	224.4	218.3	211.5	205.7
50°	287.3	271.1	254.8	242.0	231.8	222.0	210.8	206.4	195.6	192.6	189.5
52.5°	262.3	247.0	232.5	220.0	209.8	200.3	190.9	184.8	178.3	175.3	173.3
55°	239.3	224.4	210.1	199.0	188.8	179.0	172.9	165.8	162.4	160.1	157.4
57.5°	215.6	202.0	190.9	179.4	169.2	161.1	153.6	149.6	146.2	143.5	139.8
60°	193.2	180.4	170.6	160.1	149.6	143.1	137.7	132.7	128.6	123.9	122.5
62.5°	169.5	158.7	149.9	139.8	131.0	125.2	120.1	115.4	110.3	102.9	100.8
65°	148.2	139.4	129.9	121.5	113.4	107.6	100.2	94.8	92.7	92.0	91.7
67.5°	128.6	120.1	112.0	103.2	95.8	89.3	84.9	84.3	82.9	82.6	81.6
70°	109.0	101.2	93.1	84.9	77.8	76.8	75.5	74.1	72.4	71.7	71.1
72.5°	91.4	83.2	75.1	69.0	67.0	65.7	64.3	62.9	61.9	61.3	60.9
75°	72.8	65.3	59.9	57.5	55.8	54.8	52.8	51.8	51.1	50.1	49.7
77.5°	55.5	50.8	48.1	46.7	44.7	43.7	42.3	41.3	40.3	40.3	39.6
80°	39.9	37.9	36.2	34.2	33.5	32.1	31.8	30.8	31.1	30.1	30.1
82.5°	28.8	26.1	24.7	24.0	23.3	22.3	22.0	21.7	21.7	21.0	21.0
85°	15.9	15.2	14.6	13.9	13.9	12.9	13.2	12.9	12.9	12.2	11.8
87.5°	6.4	6.1	5.4	5.4	5.4	5.1	5.1	4.7	4.7	4.7	4.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	973.9	973.9	973.9	973.9
2.5°	925.5	926.2	925.2	925.9
5°	871.4	867.3	866.7	865.6
7.5°	807.4	807.1	805.1	802.7
10°	746.2	744.5	744.1	741.8
12.5°	674.4	661.2	659.9	653.1
15°	586.5	584.4	577.7	573.3
17.5°	537.4	530.6	528.2	527.2
20°	490.3	484.3	483.2	482.6
22.5°	457.9	451.4	448.4	446.0
25°	420.0	417.6	416.2	415.6
27.5°	390.2	384.1	383.4	381.7
30°	365.5	363.8	361.4	359.4
32.5°	336.4	335.0	333.0	332.3
35°	316.4	311.7	309.6	306.6
37.5°	294.4	291.7	288.3	289.7
40°	268.0	266.3	265.6	265.3
42.5°	247.0	241.6	239.6	239.6
45°	225.7	221.3	218.3	218.6
47.5°	202.7	203.0	201.0	201.7
50°	187.1	185.1	183.8	184.1
52.5°	172.2	170.6	169.5	171.2
55°	155.7	153.6	153.3	153.0
57.5°	137.7	136.7	135.0	134.0
60°	118.1	115.4	112.0	111.7
62.5°	100.2	100.2	100.2	100.2
65°	91.0	90.7	91.0	91.4
67.5°	81.6	80.9	80.2	80.5
70°	70.4	70.0	69.7	69.7
72.5°	59.6	59.6	59.2	58.9
75°	49.4	48.7	48.7	48.7
77.5°	39.6	39.3	38.9	38.6
80°	29.8	29.4	29.1	29.1
82.5°	21.0	20.6	20.6	20.3
85°	12.2	12.5	12.2	12.9
87.5°	4.4	4.1	4.4	4.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)