

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: P331673-940

Luminaire Tested: **SA2XXRDIP-C485D1080U940-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331673-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D1080U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4950.5 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

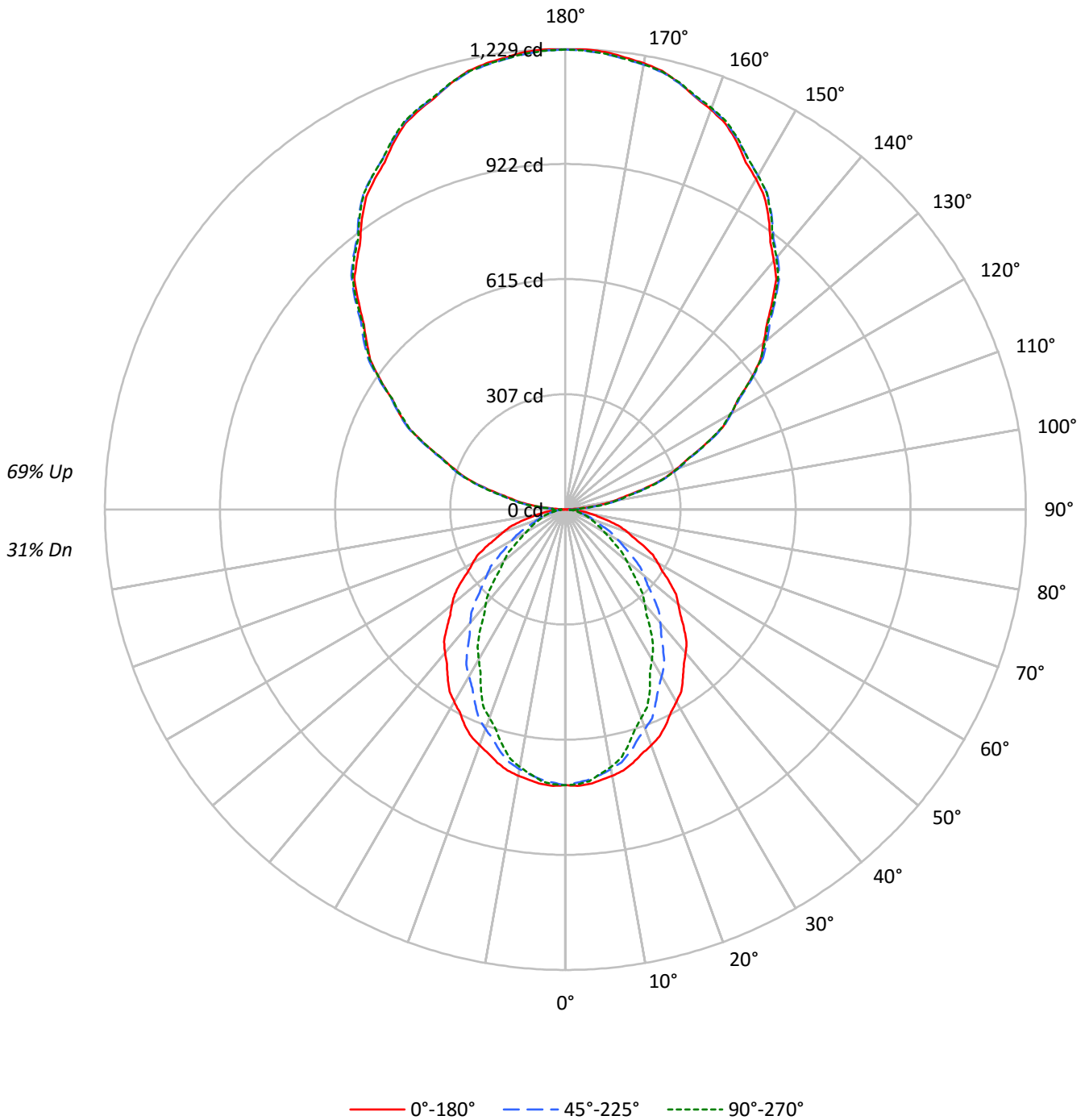
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	103	103	103	103	92	92	92	92	73	73	73	55	55	55	38	38	38	31				
1	94	90	86	83	84	81	78	75	64	62	60	48	47	46	34	34	33	26				
2	86	79	73	68	77	71	66	62	56	53	50	43	41	39	31	29	28	23				
3	78	69	62	57	70	63	57	52	50	46	42	38	35	33	27	26	24	19				
4	72	61	54	48	64	56	49	44	44	40	36	34	31	29	25	23	21	17				
5	66	55	47	41	59	50	43	38	40	35	31	31	27	25	22	20	19	15				
6	61	49	41	36	54	45	38	33	36	31	27	28	24	22	20	18	16	13				
7	56	44	37	31	50	40	34	29	33	28	24	25	22	19	19	16	15	12				
8	52	40	33	28	47	37	30	26	30	25	21	23	20	17	17	15	13	11				
9	48	37	29	25	43	33	27	23	27	22	19	21	18	16	16	14	12	10				
10	45	33	27	22	41	31	24	20	25	20	17	20	16	14	15	13	11	9				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11880	11880	11880
5°	11925	11733	11797
10°	11835	11540	11442
15°	11699	11198	10877
20°	11510	10710	10172
25°	11318	10156	9492
30°	11050	9587	8617
35°	10789	8966	7849
40°	10526	8323	6962
45°	10218	7604	6158
50°	9902	6875	5368
55°	9579	6092	4611
60°	9203	5270	3827
65°	8779	4424	3484
70°	8266	3644	3205
75°	7642	3319	2994
80°	6750	2966	2724
85°	5298	2353	2353



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.9	1.4
10°-20°	189.1	3.8
20°-30°	265.6	5.4
30°-40°	289.6	5.9
40°-50°	266.3	5.4
50°-60°	209.1	4.2
60°-70°	136.4	2.8
70°-80°	70.3	1.4
80°-90°	23.1	0.5
90°-100°	77.8	1.6
100°-110°	241.6	4.9
110°-120°	412.9	8.3
120°-130°	543.0	11.0
130°-140°	609.4	12.3
140°-150°	597.6	12.1
150°-160°	501.2	10.1
160°-170°	332.4	6.7
170°-180°	116.2	2.3
0°-30°	523.6	10.6
0°-40°	813.2	16.4
0°-60°	1288.6	26.0
0°-90°	1518.4	30.7
90°-120°	732.3	14.8
90°-150°	2482.3	50.1
90°-180°	3432.0	69.3
0°-180°	4950.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	736	736	736	736	736	
5°	736	732	724	729	728	70
15°	700	692	670	658	651	197
25°	635	613	570	544	533	292
35°	547	512	455	414	398	342
45°	448	402	333	287	270	345
55°	340	287	216	178	164	304
65°	230	176	116	94	91	228
75°	122	77	53	49	48	130
85°	29	15	13	13	13	34
90°	1	14	36	34	35	4
95°	54	64	66	66	64	62
105°	223	226	228	230	230	235
115°	414	420	418	417	414	410
125°	603	611	609	606	605	538
135°	780	791	793	792	789	602
145°	947	954	960	961	957	591
155°	1082	1086	1089	1093	1091	498
165°	1178	1177	1177	1183	1179	332
175°	1225	1222	1220	1227	1221	116
180°	1227	1227	1227	1227	1227	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	738.5	738.0	737.4	736.7	736.2	735.2	734.0	732.6	731.3	730.0	731.2
5°	735.8	735.1	734.4	733.7	732.9	731.6	729.7	727.7	725.9	723.9	725.2
7.5°	728.3	727.4	726.5	725.5	724.6	723.0	720.8	718.5	716.3	714.1	714.4
10°	721.9	720.9	719.8	718.8	717.7	715.8	712.8	709.8	706.9	703.9	703.5
12.5°	713.9	712.7	711.3	710.1	708.8	706.3	702.5	698.7	694.9	691.2	690.4
15°	699.9	698.3	696.7	695.0	693.4	690.1	685.0	680.0	675.0	669.9	667.2
17.5°	682.8	680.3	677.8	675.3	672.8	668.3	661.9	655.4	649.0	642.5	639.2
20°	669.9	667.0	664.1	661.1	658.1	652.9	645.5	638.1	630.7	623.3	619.6
22.5°	656.1	652.8	649.4	646.1	642.8	637.0	628.7	620.3	612.0	603.6	598.9
25°	635.3	630.6	625.9	621.1	616.4	609.1	599.3	589.6	579.8	570.1	564.0
27.5°	610.3	605.1	599.9	594.9	589.7	581.6	570.6	559.5	548.6	537.5	530.5
30°	592.7	587.1	581.5	575.9	570.2	561.5	549.7	537.8	525.9	514.2	506.6
32.5°	575.7	569.1	562.5	556.0	549.4	540.0	528.0	515.9	503.8	491.8	483.1
35°	547.4	539.8	532.4	524.8	517.2	506.9	493.9	480.9	467.9	454.9	445.5
37.5°	519.2	510.9	502.6	494.3	486.1	474.9	461.1	447.2	433.3	419.5	409.1
40°	499.4	490.6	481.7	472.9	464.0	452.4	438.0	423.7	409.3	394.9	384.4
42.5°	479.2	469.8	460.5	451.2	441.8	429.7	414.9	400.0	385.2	370.4	359.5
45°	447.5	437.7	427.7	417.8	407.9	395.1	379.6	364.1	348.5	333.0	322.4
47.5°	416.6	406.1	395.7	385.1	374.6	361.3	345.3	329.2	313.2	297.1	286.7
50°	394.2	383.7	373.3	362.7	352.2	338.9	322.5	306.3	290.0	273.7	263.5
52.5°	372.4	361.4	350.4	339.5	328.5	315.0	299.1	283.2	267.2	251.4	241.5
55°	340.3	328.8	317.2	305.7	294.2	280.4	264.4	248.4	232.4	216.4	207.6
57.5°	307.4	295.6	283.7	271.9	260.0	246.5	231.1	215.7	200.4	185.0	176.8
60°	285.0	273.2	261.4	249.5	237.6	224.2	208.9	193.7	178.4	163.2	155.6
62.5°	263.1	251.4	239.5	227.7	215.8	202.7	188.2	173.6	159.1	144.5	137.3
65°	229.8	217.8	205.8	193.8	181.8	169.2	155.9	142.5	129.2	115.8	110.8
67.5°	197.5	185.7	173.7	161.8	149.9	137.9	126.0	114.0	102.0	90.1	87.7
70°	175.1	163.6	152.0	140.5	128.9	118.1	107.9	97.6	87.5	77.2	75.8
72.5°	153.8	142.8	131.7	120.6	109.6	100.0	91.8	83.6	75.3	67.1	65.9
75°	122.5	112.2	101.8	91.5	81.1	73.4	68.4	63.3	58.3	53.2	52.3
77.5°	91.8	82.7	73.6	64.5	55.5	49.7	47.3	44.9	42.4	39.9	39.3
80°	72.6	65.0	57.5	49.9	42.4	37.9	36.4	35.0	33.4	31.9	31.4
82.5°	55.0	49.1	43.2	37.4	31.5	28.0	27.0	25.9	25.0	24.0	23.6
85°	28.6	25.5	22.4	19.4	16.2	14.4	14.0	13.6	13.1	12.7	12.7
87.5°	8.7	8.3	7.9	7.6	7.1	7.5	8.5	9.5	10.5	11.5	11.3
90°	1.1	3.8	6.6	9.4	12.1	16.0	21.0	26.1	31.2	36.3	35.8
92.5°	18.5	20.4	22.5	24.5	26.6	28.2	29.3	30.6	31.7	32.9	33.0
95°	53.9	56.2	58.5	60.7	63.0	64.5	64.9	65.4	65.8	66.3	66.3
97.5°	98.4	100.4	102.5	104.5	106.5	108.0	108.8	109.7	110.6	111.5	111.5
100°	131.5	133.4	135.3	137.1	138.9	140.2	140.9	141.5	142.2	142.9	142.9
102.5°	166.4	167.8	169.3	170.8	172.3	173.4	174.3	175.1	176.0	176.9	177.1
105°	222.7	223.4	224.1	224.8	225.4	226.0	226.5	226.9	227.4	227.8	228.4
107.5°	279.5	280.4	281.5	282.5	283.5	284.0	284.0	284.0	284.0	284.0	284.2
110°	315.9	317.3	318.7	320.0	321.5	322.2	322.2	322.2	322.2	322.2	322.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	355.7	357.0	358.5	359.8	361.2	361.9	361.6	361.4	361.2	361.1	360.5
115°	414.3	415.7	417.1	418.5	419.8	420.3	419.8	419.4	418.9	418.5	418.2
117.5°	472.7	474.6	476.4	478.2	480.1	480.4	479.1	477.8	476.5	475.2	474.7
120°	511.7	513.5	515.4	517.2	519.1	519.1	517.2	515.4	513.5	511.7	511.7
122.5°	547.3	549.6	551.7	553.9	556.2	556.6	555.4	554.0	552.8	551.4	550.9
125°	602.8	604.9	607.0	609.0	611.1	611.8	611.1	610.5	609.8	609.0	608.3
127.5°	656.9	659.5	662.2	664.8	667.4	668.3	667.4	666.6	665.8	664.9	664.1
130°	690.9	693.8	696.9	699.8	702.8	704.1	703.6	703.2	702.8	702.3	701.8
132.5°	729.0	731.5	733.9	736.3	738.8	740.0	740.1	740.2	740.3	740.4	739.4
135°	780.0	782.5	785.1	787.6	790.1	791.6	792.0	792.5	793.0	793.4	793.2
137.5°	833.6	835.7	837.8	839.8	841.9	843.2	843.8	844.5	845.0	845.6	845.4
140°	865.9	868.0	870.0	872.2	874.2	875.8	877.0	878.2	879.3	880.4	880.4
142.5°	899.1	901.2	903.2	905.3	907.3	908.7	909.5	910.3	911.2	912.0	912.1
145°	946.7	948.3	949.9	951.5	953.1	954.7	956.0	957.4	958.8	960.2	960.4
147.5°	989.2	991.1	993.0	995.0	996.9	998.4	999.3	1000.2	1001.1	1002.0	1002.6
150°	1018.2	1019.6	1020.9	1022.3	1023.7	1024.8	1025.8	1026.7	1027.6	1028.6	1029.2
152.5°	1043.8	1045.3	1046.6	1048.0	1049.4	1050.6	1051.8	1052.8	1054.0	1055.1	1056.0
155°	1082.4	1083.1	1083.8	1084.5	1085.2	1085.8	1086.5	1087.3	1088.0	1088.6	1089.8
157.5°	1115.4	1115.8	1116.2	1116.7	1117.2	1117.6	1118.0	1118.5	1118.8	1119.3	1120.9
160°	1135.2	1135.7	1136.1	1136.6	1137.1	1137.4	1137.6	1137.9	1138.1	1138.4	1139.7
162.5°	1153.4	1153.5	1153.6	1153.7	1153.9	1154.0	1154.2	1154.4	1154.7	1154.9	1156.5
165°	1177.7	1177.5	1177.2	1177.0	1176.8	1176.7	1176.7	1176.7	1176.7	1176.7	1178.3
167.5°	1198.0	1197.3	1196.6	1196.0	1195.2	1194.9	1194.8	1194.8	1194.7	1194.7	1196.3
170°	1208.8	1208.1	1207.4	1206.7	1206.0	1205.6	1205.3	1205.1	1204.9	1204.6	1206.2
172.5°	1216.2	1215.6	1214.9	1214.2	1213.4	1213.0	1212.8	1212.5	1212.3	1212.1	1213.7
175°	1225.4	1224.7	1224.0	1223.2	1222.6	1222.0	1221.6	1221.1	1220.7	1220.1	1221.8
177.5°	1229.0	1228.5	1228.0	1227.4	1226.9	1226.4	1226.0	1225.7	1225.3	1224.9	1226.0
180°	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	732.4	733.6	734.8	735.2	735.0	734.8	734.5	734.3
5°	726.6	727.9	729.2	729.7	729.2	728.8	728.3	727.9
7.5°	714.8	715.2	715.6	715.4	714.6	713.8	713.1	712.3
10°	703.0	702.6	702.1	701.5	700.6	699.7	698.8	697.9
12.5°	689.6	688.8	688.0	686.8	685.3	683.9	682.3	680.9
15°	664.3	661.6	658.7	656.6	655.1	653.6	652.1	650.7
17.5°	635.8	632.5	629.1	626.2	623.7	621.1	618.6	616.0
20°	615.9	612.2	608.5	605.0	601.8	598.5	595.3	592.0
22.5°	594.1	589.3	584.6	580.9	578.5	576.1	573.7	571.2
25°	557.9	551.9	545.8	541.6	539.4	537.2	535.0	532.8
27.5°	523.4	516.3	509.3	504.0	500.4	497.0	493.4	489.9
30°	499.0	491.5	483.9	478.1	474.1	470.2	466.2	462.2
32.5°	474.5	465.9	457.3	451.1	447.4	443.6	439.8	436.0
35°	436.2	426.9	417.6	411.3	408.0	404.7	401.5	398.2
37.5°	398.9	388.6	378.4	371.3	367.7	363.9	360.2	356.4
40°	373.9	363.4	352.8	345.7	341.9	338.0	334.1	330.3
42.5°	348.7	337.8	327.0	319.7	315.9	312.2	308.4	304.7
45°	311.9	301.5	291.0	283.9	280.4	276.8	273.2	269.7
47.5°	276.3	265.8	255.4	248.5	245.3	242.1	238.8	235.6
50°	253.2	243.1	232.8	226.2	223.1	220.0	216.9	213.7
52.5°	231.6	221.8	211.9	205.5	202.7	199.8	196.9	194.0
55°	198.7	189.8	180.9	175.0	172.3	169.4	166.7	163.8
57.5°	168.7	160.6	152.5	147.2	144.8	142.5	140.1	137.7
60°	148.0	140.5	133.0	128.0	125.6	123.2	120.9	118.5
62.5°	130.1	123.0	115.7	111.5	110.0	108.6	107.2	105.8
65°	105.8	100.8	95.8	93.0	92.6	92.1	91.7	91.2
67.5°	85.4	83.1	80.8	79.5	78.9	78.5	78.0	77.5
70°	74.3	72.9	71.3	70.3	69.7	69.1	68.5	67.9
72.5°	64.6	63.4	62.2	61.3	61.0	60.6	60.3	59.9
75°	51.2	50.2	49.1	48.5	48.4	48.2	48.1	48.0
77.5°	38.8	38.2	37.6	37.2	36.9	36.7	36.5	36.2
80°	30.8	30.2	29.6	29.3	29.3	29.3	29.3	29.3
82.5°	23.3	22.9	22.6	22.4	22.4	22.4	22.4	22.4
85°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
87.5°	11.1	10.9	10.7	10.6	10.6	10.7	10.7	10.8
90°	35.3	34.9	34.4	34.3	34.5	34.8	35.0	35.2
92.5°	33.1	33.2	33.3	33.3	33.4	33.4	33.5	33.5
95°	66.3	66.3	66.3	66.1	65.6	65.2	64.6	64.2
97.5°	111.5	111.5	111.5	111.5	111.4	111.4	111.3	111.3
100°	142.9	142.9	142.9	142.9	142.6	142.4	142.1	141.9
102.5°	177.3	177.5	177.6	177.6	177.4	177.2	176.9	176.7
105°	228.8	229.3	229.7	230.0	230.0	230.0	230.0	230.0
107.5°	284.4	284.5	284.7	284.3	283.3	282.2	281.2	280.1
110°	322.2	322.2	322.2	321.8	321.1	320.4	319.7	319.1



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CATALOG NUMBER: SA2XXRDIP-C485D1080U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	360.0	359.4	358.9	358.4	357.8	357.3	356.9	356.3
115°	418.0	417.8	417.5	417.1	416.4	415.7	415.0	414.3
117.5°	474.1	473.6	473.1	472.4	471.7	471.0	470.3	469.7
120°	511.7	511.7	511.7	511.3	510.7	510.0	509.3	508.5
122.5°	550.4	549.8	549.2	548.8	548.2	547.7	547.2	546.7
125°	607.7	607.0	606.3	605.8	605.6	605.4	605.1	604.9
127.5°	663.3	662.5	661.6	660.8	660.1	659.4	658.7	657.9
130°	701.3	700.9	700.4	699.7	698.8	697.9	697.0	696.1
132.5°	738.3	737.4	736.4	735.5	734.8	734.0	733.3	732.5
135°	793.0	792.7	792.5	792.0	791.3	790.7	790.0	789.3
137.5°	845.3	845.1	844.9	844.4	843.4	842.5	841.6	840.6
140°	880.4	880.4	880.4	879.9	879.0	878.2	877.2	876.3
142.5°	912.3	912.5	912.7	912.3	911.3	910.4	909.5	908.6
145°	960.6	960.9	961.1	960.7	959.8	958.9	958.0	957.1
147.5°	1003.1	1003.5	1004.1	1003.9	1003.0	1002.1	1001.2	1000.4
150°	1029.9	1030.6	1031.4	1031.4	1030.6	1029.9	1029.2	1028.6
152.5°	1056.9	1057.7	1058.5	1058.5	1057.7	1056.9	1056.0	1055.1
155°	1090.9	1092.1	1093.2	1093.4	1092.8	1092.1	1091.4	1090.7
157.5°	1122.4	1124.0	1125.5	1125.8	1124.6	1123.6	1122.5	1121.3
160°	1141.1	1142.5	1143.9	1144.1	1143.2	1142.3	1141.3	1140.4
162.5°	1158.1	1159.6	1161.2	1161.4	1160.3	1159.2	1158.1	1157.0
165°	1179.9	1181.5	1183.1	1183.3	1182.2	1181.1	1179.9	1178.8
167.5°	1197.9	1199.5	1201.1	1201.3	1200.2	1198.9	1197.7	1196.6
170°	1207.8	1209.4	1211.0	1211.2	1209.8	1208.4	1207.0	1205.7
172.5°	1215.3	1216.9	1218.5	1218.6	1217.3	1215.8	1214.5	1213.1
175°	1223.4	1225.0	1226.6	1226.7	1225.4	1224.0	1222.6	1221.2
177.5°	1227.2	1228.2	1229.3	1229.3	1228.2	1227.2	1226.0	1224.9
180°	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4

(END OF REPORT)