

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: P331666-830

Luminaire Tested: **SA2XXRDIP-C485D925U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331666-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D925U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

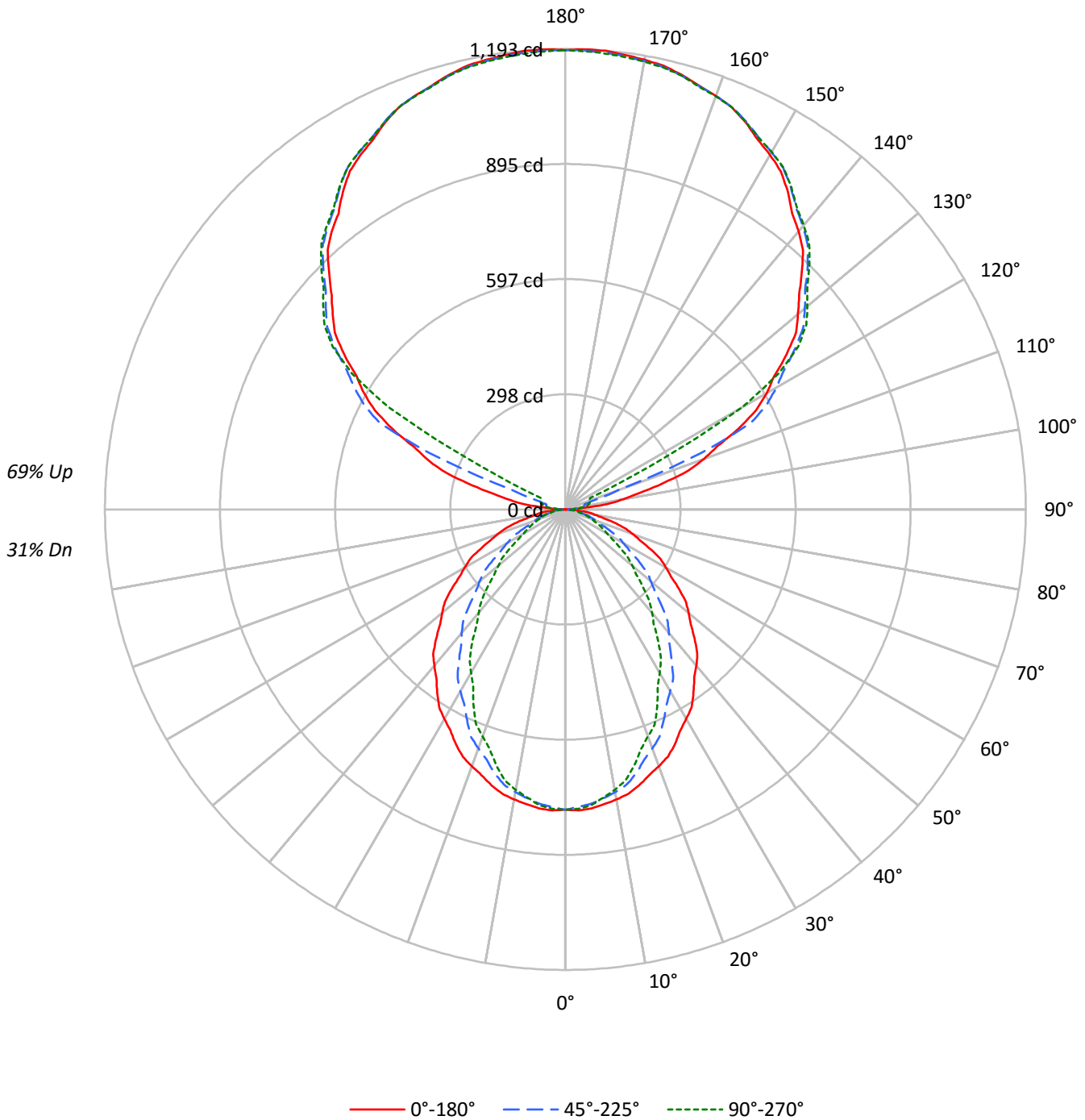
Lumens per Lamp: N/A
Luminaire Lumens: 5089.0 lumens
Efficiency: N/A
Efficacy: 114.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 44.5
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	39	39	39	31	31	31	20	
1	94	90	86	83	84	81	78	75	64	62	60	49	48	47	35	34	34	27	27	27	17	
2	86	79	73	68	77	71	66	62	57	53	50	43	41	39	31	30	29	23	23	23	15	
3	78	69	63	57	70	63	57	52	50	46	43	39	36	34	28	26	25	20	20	20	12	
4	72	62	54	48	64	56	49	44	45	40	37	35	31	29	25	23	22	17	17	17	10	
5	66	55	47	41	59	50	43	38	40	35	32	31	28	25	23	21	19	15	15	15	9	
6	61	49	42	36	54	45	38	33	36	31	28	28	25	22	21	19	17	14	14	14	8	
7	56	44	37	32	50	40	34	29	33	28	24	26	22	20	19	17	15	12	12	12	7	
8	52	40	33	28	47	37	30	26	30	25	22	23	20	18	17	15	14	11	11	11	6	
9	48	37	30	25	44	33	27	23	27	23	19	22	18	16	16	14	12	10	10	10	5	
10	45	34	27	22	41	31	25	21	25	21	17	20	17	14	15	13	11	9	9	9	4	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12558	12558	12558
5°	12606	12402	12470
10°	12511	12198	12095
15°	12366	11836	11497
20°	12167	11320	10753
25°	11965	10735	10033
30°	11680	10133	9107
35°	11404	9477	8296
40°	11126	8800	7358
45°	10803	8035	6510
50°	10467	7267	5674
55°	10125	6441	4873
60°	9726	5570	4046
65°	9280	4676	3683
70°	8738	3852	3389
75°	8079	3512	3163
80°	7132	3133	2882
85°	5613	2482	2482



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.8	1.4
10°-20°	199.9	3.9
20°-30°	280.7	5.5
30°-40°	306.1	6.0
40°-50°	281.5	5.5
50°-60°	221.1	4.3
60°-70°	144.1	2.8
70°-80°	74.3	1.5
80°-90°	22.2	0.4
90°-100°	39.7	0.8
100°-110°	145.5	2.9
110°-120°	389.0	7.6
120°-130°	642.1	12.6
130°-140°	682.9	13.4
140°-150°	634.7	12.5
150°-160°	510.3	10.0
160°-170°	328.8	6.5
170°-180°	113.2	2.2
0°-30°	553.4	10.9
0°-40°	859.6	16.9
0°-60°	1362.1	26.8
0°-90°	1602.7	31.5
90°-120°	574.2	11.3
90°-150°	2533.9	49.8
90°-180°	3486.0	68.5
0°-180°	5089.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	778	778	778	778	778	
5°	778	774	765	771	769	74
15°	740	731	708	695	688	208
25°	672	648	603	575	563	309
35°	579	541	481	438	421	362
45°	473	424	352	304	285	365
55°	360	304	229	188	173	321
65°	243	186	122	100	96	241
75°	130	82	56	52	51	137
85°	30	16	13	13	13	36
90°	1	10	17	21	23	4
95°	56	29	34	38	37	68
105°	262	273	52	62	65	280
115°	495	510	531	151	71	487
125°	700	711	727	733	736	624
135°	866	879	888	896	894	669
145°	1005	1005	1018	1024	1020	628
155°	1106	1099	1109	1113	1107	509
165°	1166	1161	1163	1168	1163	329
175°	1192	1187	1188	1193	1185	113
180°	1190	1190	1190	1190	1190	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8
2.5°	780.6	780.0	779.4	778.7	778.2	777.1	775.8	774.4	773.0	771.7	772.9
5°	777.8	777.0	776.3	775.5	774.7	773.3	771.3	769.2	767.2	765.2	766.6
7.5°	769.8	768.8	767.9	766.9	765.9	764.2	761.9	759.5	757.1	754.8	755.2
10°	763.1	762.0	760.8	759.8	758.7	756.6	753.5	750.3	747.2	744.0	743.6
12.5°	754.6	753.3	751.9	750.5	749.2	746.6	742.5	738.6	734.5	730.6	729.7
15°	739.8	738.1	736.4	734.6	732.9	729.4	724.1	718.8	713.5	708.1	705.2
17.5°	721.7	719.1	716.4	713.8	711.1	706.4	699.6	692.8	686.0	679.1	675.6
20°	708.1	705.0	701.9	698.8	695.6	690.1	682.3	674.5	666.7	658.8	655.0
22.5°	693.5	690.0	686.5	683.0	679.5	673.4	664.5	655.6	646.9	638.0	633.0
25°	671.6	666.6	661.6	656.5	651.5	643.9	633.5	623.2	612.8	602.6	596.2
27.5°	645.1	639.6	634.1	628.8	623.3	614.7	603.1	591.4	579.9	568.2	560.7
30°	626.5	620.6	614.6	608.7	602.8	593.5	581.0	568.4	555.9	543.5	535.5
32.5°	608.5	601.5	594.6	587.7	580.7	570.8	558.1	545.3	532.5	519.8	510.7
35°	578.6	570.6	562.7	554.7	546.7	535.8	522.1	508.3	494.6	480.8	470.9
37.5°	548.7	540.0	531.2	522.5	513.8	502.0	487.4	472.7	458.0	443.4	432.4
40°	527.9	518.6	509.2	499.8	490.4	478.2	463.0	447.8	432.6	417.5	406.3
42.5°	506.5	496.6	486.7	476.9	467.0	454.2	438.6	422.8	407.2	391.5	380.0
45°	473.1	462.6	452.0	441.6	431.1	417.6	401.2	384.8	368.3	351.9	340.8
47.5°	440.4	429.2	418.2	407.1	396.0	381.9	365.0	348.0	331.0	314.1	303.0
50°	416.7	405.6	394.5	383.4	372.3	358.2	340.9	323.8	306.5	289.3	278.5
52.5°	393.6	382.0	370.4	358.8	347.2	333.0	316.1	299.4	282.5	265.7	255.2
55°	359.7	347.5	335.3	323.1	310.9	296.3	279.5	262.6	245.6	228.8	219.4
57.5°	324.9	312.5	299.9	287.4	274.8	260.5	244.3	228.0	211.8	195.6	186.9
60°	301.2	288.8	276.3	263.7	251.2	237.0	220.8	204.7	188.6	172.5	164.5
62.5°	278.1	265.7	253.2	240.6	228.1	214.2	198.9	183.5	168.1	152.8	145.2
65°	242.9	230.2	217.5	204.8	192.2	178.8	164.8	150.6	136.6	122.4	117.2
67.5°	208.8	196.2	183.6	171.1	158.4	145.8	133.2	120.6	107.8	95.2	92.7
70°	185.1	173.0	160.7	148.5	136.3	124.8	114.0	103.2	92.5	81.6	80.1
72.5°	162.6	150.9	139.2	127.5	115.8	105.7	97.0	88.3	79.6	71.0	69.7
75°	129.5	118.6	107.6	96.7	85.7	77.6	72.3	66.9	61.6	56.3	55.2
77.5°	97.0	87.4	77.8	68.1	58.6	52.5	50.0	47.4	44.8	42.2	41.6
80°	76.7	68.7	60.8	52.8	44.8	40.1	38.5	36.9	35.3	33.7	33.2
82.5°	58.2	51.9	45.7	39.5	33.3	29.6	28.6	27.4	26.4	25.4	25.0
85°	30.3	27.0	23.7	20.5	17.2	15.3	14.8	14.3	13.9	13.4	13.4
87.5°	9.1	8.6	8.0	7.4	6.9	6.7	7.1	7.4	7.6	7.9	8.0
90°	0.8	2.9	5.1	7.2	9.2	11.1	12.6	14.1	15.6	17.2	18.2
92.5°	17.3	17.2	17.0	16.8	16.6	16.9	17.7	18.5	19.2	20.0	20.5
95°	56.0	49.7	43.4	37.0	30.7	28.2	29.6	30.9	32.2	33.6	34.5
97.5°	111.0	93.2	75.5	57.7	39.9	32.5	35.6	38.7	41.8	45.0	45.7
100°	152.4	126.1	99.9	73.7	47.5	36.1	39.3	42.6	45.8	49.1	50.6
102.5°	197.8	192.3	186.7	181.2	175.6	159.3	132.1	104.8	77.7	50.4	52.4
105°	261.6	267.4	273.1	278.9	284.6	261.4	209.2	156.9	104.7	52.5	54.6
107.5°	334.5	339.1	343.7	348.4	353.1	324.0	261.4	198.8	136.1	73.5	71.4
110°	381.4	385.4	389.4	393.4	397.4	371.7	316.5	261.2	205.9	150.6	131.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	425.4	429.0	432.5	436.1	439.6	434.6	420.9	407.3	393.6	379.9	310.2
115°	494.9	498.2	501.4	504.7	507.9	512.0	516.8	521.6	526.3	531.1	442.5
117.5°	557.1	560.7	564.4	568.1	571.7	575.1	578.4	581.7	585.0	588.2	566.8
120°	602.6	605.4	608.3	611.1	614.1	617.2	620.7	624.1	627.5	630.9	633.3
122.5°	641.1	644.1	647.1	650.2	653.2	656.6	660.3	664.1	667.9	671.7	673.0
125°	699.8	702.3	704.8	707.3	709.8	712.8	716.5	720.1	723.8	727.4	728.8
127.5°	753.0	755.8	758.6	761.3	764.0	766.8	769.5	772.2	775.0	777.7	779.6
130°	786.8	789.9	792.9	796.0	799.0	801.6	803.7	805.8	807.9	810.0	812.1
132.5°	821.2	823.8	826.4	829.1	831.6	834.0	836.1	838.2	840.3	842.4	844.2
135°	866.0	869.0	872.1	875.2	878.3	880.6	882.3	884.1	885.8	887.5	889.4
137.5°	911.3	913.4	915.6	917.7	919.8	921.9	923.8	925.8	927.7	929.7	931.5
140°	940.8	942.4	944.0	945.5	947.0	948.9	950.9	953.0	955.2	957.2	958.9
142.5°	965.6	967.0	968.5	969.8	971.2	973.1	975.4	977.9	980.3	982.7	984.3
145°	1004.6	1004.4	1004.2	1004.0	1003.8	1005.3	1008.6	1011.8	1015.1	1018.3	1019.6
147.5°	1038.5	1037.7	1037.1	1036.3	1035.6	1036.8	1040.0	1043.3	1046.5	1049.7	1050.7
150°	1060.5	1059.2	1057.8	1056.5	1055.2	1056.0	1059.1	1062.2	1065.3	1068.3	1069.4
152.5°	1079.1	1077.6	1076.1	1074.7	1073.2	1073.8	1076.8	1079.7	1082.6	1085.5	1086.7
155°	1106.2	1104.5	1102.7	1101.0	1099.3	1099.6	1101.8	1104.2	1106.5	1108.7	1109.8
157.5°	1127.3	1125.9	1124.5	1122.9	1121.5	1121.6	1123.2	1124.8	1126.4	1128.0	1129.4
160°	1139.7	1138.6	1137.5	1136.2	1135.1	1135.1	1136.2	1137.5	1138.6	1139.7	1140.9
162.5°	1150.8	1149.6	1148.5	1147.3	1146.1	1146.0	1147.1	1148.0	1149.1	1150.1	1151.3
165°	1165.5	1164.4	1163.3	1162.1	1160.9	1160.6	1161.2	1161.8	1162.4	1163.0	1164.3
167.5°	1176.6	1175.4	1174.3	1173.1	1172.0	1171.7	1172.2	1172.7	1173.3	1173.8	1175.2
170°	1182.8	1181.6	1180.4	1179.3	1178.2	1177.8	1178.2	1178.6	1178.9	1179.3	1180.6
172.5°	1186.8	1185.7	1184.6	1183.5	1182.3	1181.9	1182.3	1182.7	1183.1	1183.5	1184.8
175°	1192.2	1190.9	1189.6	1188.2	1186.8	1186.4	1186.8	1187.1	1187.5	1187.9	1189.3
177.5°	1193.1	1192.0	1191.0	1189.9	1188.8	1188.4	1188.5	1188.6	1188.8	1188.9	1190.1
180°	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8
2.5°	774.1	775.4	776.7	777.1	776.9	776.7	776.4	776.2
5°	768.0	769.4	770.8	771.3	770.8	770.3	769.9	769.4
7.5°	755.5	755.9	756.4	756.2	755.4	754.5	753.8	752.9
10°	743.1	742.6	742.2	741.5	740.6	739.6	738.7	737.7
12.5°	728.9	728.0	727.2	725.9	724.3	722.8	721.2	719.7
15°	702.2	699.3	696.3	694.0	692.4	690.9	689.3	687.8
17.5°	672.0	668.5	665.0	661.9	659.2	656.5	653.8	651.1
20°	651.0	647.1	643.2	639.5	636.1	632.6	629.2	625.8
22.5°	627.9	622.9	617.9	614.1	611.5	609.0	606.4	603.8
25°	589.7	583.3	576.9	572.5	570.1	567.8	565.5	563.2
27.5°	553.3	545.7	538.3	532.7	529.0	525.3	521.5	517.8
30°	527.4	519.5	511.5	505.4	501.1	497.0	492.8	488.5
32.5°	501.5	492.5	483.3	476.8	472.9	468.9	464.9	460.9
35°	461.1	451.2	441.4	434.7	431.3	427.8	424.4	420.9
37.5°	421.6	410.8	399.9	392.5	388.6	384.7	380.7	376.7
40°	395.2	384.1	373.0	365.4	361.4	357.3	353.2	349.1
42.5°	368.5	357.0	345.6	337.9	333.9	330.0	326.0	322.1
45°	329.7	318.7	307.6	300.1	296.3	292.6	288.8	285.1
47.5°	292.0	281.0	269.9	262.7	259.3	255.9	252.4	249.0
50°	267.7	256.9	246.1	239.1	235.8	232.5	229.2	225.9
52.5°	244.8	234.4	223.9	217.3	214.2	211.2	208.1	205.1
55°	210.0	200.6	191.2	185.0	182.1	179.1	176.2	173.1
57.5°	178.3	169.8	161.2	155.6	153.1	150.6	148.1	145.5
60°	156.5	148.5	140.5	135.3	132.8	130.3	127.8	125.3
62.5°	137.5	130.0	122.3	117.8	116.3	114.8	113.3	111.8
65°	111.9	106.5	101.2	98.3	97.8	97.4	96.9	96.4
67.5°	90.3	87.8	85.4	84.0	83.4	82.9	82.5	81.9
70°	78.5	77.0	75.4	74.3	73.7	73.0	72.4	71.8
72.5°	68.3	67.0	65.7	64.8	64.5	64.1	63.7	63.3
75°	54.1	53.1	51.9	51.3	51.2	51.0	50.8	50.7
77.5°	41.0	40.3	39.8	39.3	39.0	38.8	38.5	38.3
80°	32.5	32.0	31.3	31.0	31.0	31.0	31.0	31.0
82.5°	24.6	24.2	23.8	23.7	23.7	23.7	23.7	23.7
85°	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
87.5°	8.1	8.1	8.2	8.3	8.4	8.5	8.5	8.6
90°	19.1	20.1	21.0	21.7	22.1	22.4	22.9	23.3
92.5°	20.9	21.5	22.0	22.3	22.5	22.8	23.0	23.3
95°	35.4	36.5	37.4	37.8	37.6	37.4	37.2	37.0
97.5°	46.5	47.2	48.0	48.4	48.7	48.9	49.2	49.4
100°	52.1	53.6	55.2	56.2	56.6	56.9	57.3	57.7
102.5°	54.4	56.5	58.4	59.7	60.2	60.7	61.3	61.8
105°	56.7	58.8	60.9	62.4	63.2	63.9	64.7	65.4
107.5°	69.2	67.1	64.9	64.3	65.0	65.8	66.5	67.3
110°	112.4	93.2	74.1	64.9	65.7	66.4	67.2	68.1



TEST NUMBER: P331666-830

CATALOG NUMBER: SA2XXRDIP-C485D925U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	240.4	170.6	100.9	66.3	66.8	67.5	68.1	68.7
115°	354.0	265.4	176.8	125.6	111.9	98.1	84.4	70.6
117.5°	545.4	524.1	502.6	469.2	424.0	378.7	333.5	288.2
120°	635.6	637.9	640.2	628.4	602.6	576.7	550.9	525.1
122.5°	674.4	675.7	677.1	675.3	670.3	665.2	660.3	655.3
125°	730.1	731.4	732.7	733.7	734.2	734.8	735.5	736.0
127.5°	781.6	783.5	785.5	786.5	786.6	786.7	786.8	786.9
130°	814.3	816.3	818.4	819.4	819.3	819.0	818.8	818.6
132.5°	846.0	847.8	849.6	850.4	850.2	850.0	849.8	849.6
135°	891.4	893.2	895.1	895.9	895.5	895.1	894.8	894.4
137.5°	933.4	935.3	937.2	937.8	937.2	936.5	935.9	935.2
140°	960.6	962.4	964.1	964.5	963.6	962.6	961.7	960.6
142.5°	985.8	987.4	989.0	989.3	988.4	987.4	986.5	985.4
145°	1021.1	1022.4	1023.7	1023.9	1022.9	1022.0	1021.1	1020.1
147.5°	1051.7	1052.6	1053.7	1053.8	1052.9	1052.2	1051.3	1050.6
150°	1070.5	1071.8	1072.9	1073.0	1072.0	1071.0	1070.1	1069.1
152.5°	1087.8	1088.9	1090.1	1090.1	1088.7	1087.5	1086.3	1085.0
155°	1111.1	1112.2	1113.3	1113.1	1111.6	1110.0	1108.5	1107.0
157.5°	1130.6	1131.9	1133.2	1133.1	1131.6	1130.1	1128.6	1127.2
160°	1142.0	1143.2	1144.3	1144.2	1142.8	1141.5	1140.2	1138.9
162.5°	1152.6	1154.0	1155.3	1155.1	1153.5	1151.8	1150.2	1148.5
165°	1165.6	1167.0	1168.3	1168.3	1167.0	1165.6	1164.3	1163.0
167.5°	1176.5	1177.8	1179.2	1178.9	1177.2	1175.5	1173.8	1172.1
170°	1182.0	1183.4	1184.7	1184.5	1182.8	1181.0	1179.3	1177.6
172.5°	1186.1	1187.5	1188.8	1188.6	1186.8	1185.2	1183.5	1181.8
175°	1190.6	1191.9	1193.3	1193.0	1191.1	1189.2	1187.2	1185.3
177.5°	1191.1	1192.2	1193.3	1193.1	1191.8	1190.3	1188.9	1187.6
180°	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7

(END OF REPORT)