

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: P331674-930

Luminaire Tested: **SA2XXRDIP-C485D1080U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331674-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D1080U930-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4815.4 lumens
Efficiency: N/A
Efficacy: 97.5 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

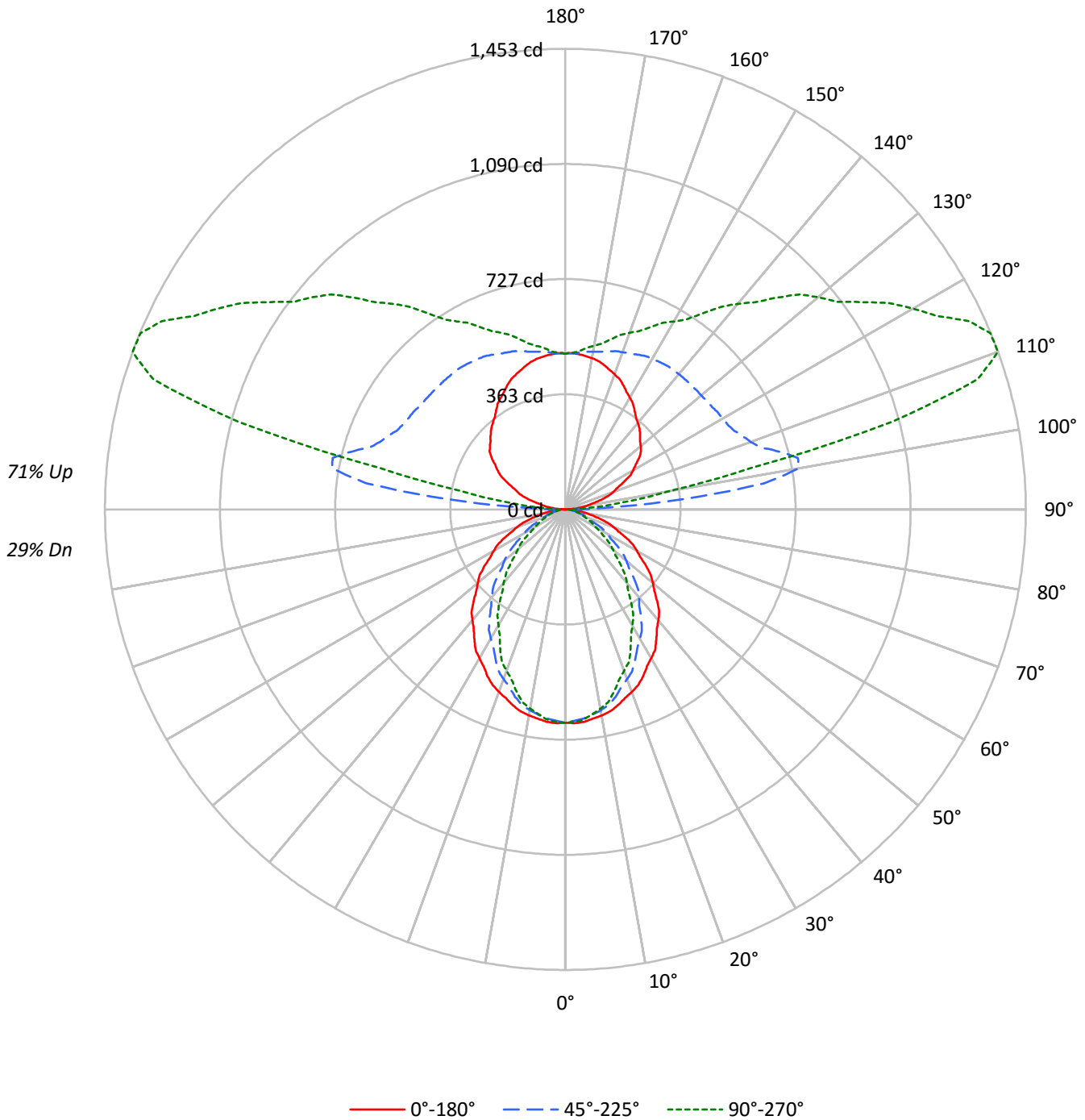
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331674-930

CATALOG NUMBER: SA2XXRDIP-C485D1080U930-4F0-1E-UDD-F4

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	102	102	102	102	91	91	91	91	72	72	72	53	53	53	37	37	37	29
1	93	89	86	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25
2	85	78	72	68	76	70	65	61	55	52	49	42	40	38	29	28	27	21
3	78	69	62	56	69	62	56	51	49	45	42	37	34	32	26	24	23	18
4	71	61	54	48	64	55	49	44	44	39	36	33	30	28	23	22	20	16
5	65	54	47	41	58	49	43	38	39	34	31	30	27	24	21	19	18	14
6	60	49	41	36	54	44	37	33	35	30	27	27	24	21	19	17	16	12
7	56	44	36	31	50	40	33	29	32	27	24	25	21	19	18	16	14	11
8	52	40	32	27	46	36	30	25	29	24	21	23	19	17	16	14	13	10
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9
10	45	33	26	22	40	30	24	20	24	20	17	19	16	14	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10863	10863	10863
5°	10904	10728	10786
10°	10822	10552	10462
15°	10696	10238	9944
20°	10524	9792	9301
25°	10349	9285	8678
30°	10103	8764	7879
35°	9865	8198	7177
40°	9624	7611	6365
45°	9344	6951	5631
50°	9053	6285	4908
55°	8757	5571	4217
60°	8415	4818	3500
65°	8027	4046	3186
70°	7558	3333	2932
75°	6987	3038	2739
80°	6174	2715	2492
85°	4854	2149	2149



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CATALOG NUMBER: SA2XXRDIP-C485D1080U930-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.0	1.3
10°-20°	172.9	3.6
20°-30°	242.8	5.0
30°-40°	264.8	5.5
40°-50°	243.5	5.1
50°-60°	191.2	4.0
60°-70°	124.7	2.6
70°-80°	64.3	1.3
80°-90°	21.1	0.4
90°-100°	196.9	4.1
100°-110°	668.2	13.9
110°-120°	709.9	14.7
120°-130°	584.4	12.1
130°-140°	469.3	9.7
140°-150°	354.6	7.4
150°-160°	249.2	5.2
160°-170°	146.7	3.0
170°-180°	47.8	1.0
0°-30°	478.7	9.9
0°-40°	743.5	15.4
0°-60°	1178.2	24.5
0°-90°	1388.3	28.8
90°-120°	1575.1	32.7
90°-150°	2983.4	62.0
90°-180°	3427.0	71.2
0°-180°	4815.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	673	673	673	673	673	
5°	673	670	662	667	666	64
15°	640	632	612	601	595	180
25°	581	560	521	497	487	267
35°	500	468	416	379	364	313
45°	409	367	304	263	247	316
55°	311	263	198	163	150	278
65°	210	160	106	86	83	208
75°	112	71	49	45	44	119
85°	26	14	12	12	12	31
90°	1	13	32	31	31	3
95°	33	81	371	140	108	35
105°	116	174	702	1254	1067	123
115°	204	257	587	1212	1405	202
125°	284	336	564	982	1139	252
135°	333	398	558	825	944	258
145°	381	438	555	689	754	239
155°	433	467	539	609	634	199
165°	472	486	516	547	556	133
175°	492	492	496	502	501	47
180°	492	492	492	492	492	



TEST NUMBER: P331674-930

CATALOG NUMBER: SA2XXRDIP-C485D1080U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8
2.5°	675.2	674.7	674.2	673.6	673.1	672.2	671.1	669.8	668.6	667.5	668.5
5°	672.8	672.1	671.5	670.8	670.1	668.9	667.2	665.4	663.7	661.9	663.1
7.5°	665.9	665.0	664.2	663.3	662.5	661.0	659.0	657.0	654.9	652.9	653.2
10°	660.1	659.1	658.1	657.2	656.2	654.4	651.8	649.0	646.3	643.6	643.2
12.5°	652.7	651.6	650.4	649.2	648.1	645.8	642.3	638.9	635.4	631.9	631.2
15°	639.9	638.5	637.0	635.4	634.0	631.0	626.3	621.7	617.2	612.5	610.0
17.5°	624.3	622.0	619.7	617.4	615.1	611.1	605.2	599.2	593.4	587.4	584.4
20°	612.5	609.8	607.2	604.5	601.7	597.0	590.2	583.4	576.7	569.9	566.6
22.5°	599.9	596.9	593.8	590.8	587.7	582.4	574.8	567.1	559.5	551.9	547.6
25°	580.9	576.6	572.3	567.9	563.5	556.9	548.0	539.1	530.1	521.2	515.7
27.5°	558.0	553.3	548.5	543.9	539.2	531.7	521.7	511.6	501.6	491.5	485.0
30°	541.9	536.8	531.7	526.5	521.4	513.4	502.6	491.7	480.9	470.1	463.2
32.5°	526.4	520.3	514.3	508.3	502.3	493.7	482.7	471.7	460.6	449.6	441.7
35°	500.5	493.6	486.7	479.8	472.9	463.5	451.6	439.7	427.8	415.9	407.3
37.5°	474.7	467.1	459.5	451.9	444.4	434.2	421.6	408.9	396.2	383.5	374.1
40°	456.6	448.6	440.4	432.4	424.2	413.6	400.5	387.3	374.2	361.1	351.5
42.5°	438.1	429.6	421.0	412.5	404.0	392.9	379.4	365.7	352.2	338.7	328.7
45°	409.2	400.1	391.0	382.0	372.9	361.3	347.1	332.9	318.6	304.4	294.8
47.5°	380.9	371.3	361.7	352.1	342.5	330.4	315.7	301.0	286.3	271.7	262.1
50°	360.4	350.8	341.3	331.7	322.0	309.8	294.9	280.1	265.1	250.2	240.9
52.5°	340.5	330.4	320.4	310.4	300.4	288.0	273.5	258.9	244.3	229.8	220.8
55°	311.1	300.6	290.0	279.5	269.0	256.3	241.7	227.1	212.5	197.9	189.8
57.5°	281.0	270.3	259.4	248.6	237.7	225.3	211.3	197.2	183.2	169.2	161.7
60°	260.6	249.8	239.0	228.1	217.3	205.0	191.0	177.1	163.1	149.2	142.3
62.5°	240.6	229.8	219.0	208.1	197.3	185.3	172.0	158.7	145.4	132.2	125.6
65°	210.1	199.1	188.2	177.2	166.2	154.7	142.5	130.3	118.1	105.9	101.3
67.5°	180.6	169.7	158.8	148.0	137.1	126.1	115.2	104.3	93.3	82.3	80.2
70°	160.1	149.6	139.0	128.5	117.9	107.9	98.7	89.3	80.0	70.6	69.3
72.5°	140.6	130.5	120.4	110.3	100.2	91.4	83.9	76.4	68.9	61.4	60.3
75°	112.0	102.6	93.1	83.6	74.1	67.1	62.5	57.9	53.3	48.7	47.8
77.5°	83.9	75.6	67.3	58.9	50.7	45.4	43.2	41.0	38.7	36.5	36.0
80°	66.4	59.4	52.6	45.7	38.7	34.7	33.3	32.0	30.6	29.2	28.7
82.5°	50.3	44.9	39.5	34.2	28.8	25.6	24.7	23.7	22.8	21.9	21.6
85°	26.2	23.3	20.5	17.7	14.8	13.2	12.8	12.4	12.0	11.6	11.6
87.5°	8.0	7.7	7.6	7.1	6.6	6.8	7.7	9.0	10.1	10.4	10.0
90°	1.0	3.8	7.6	9.5	11.3	14.2	18.9	25.6	31.2	32.2	31.2
92.5°	11.6	16.6	23.5	27.6	34.1	43.0	64.4	94.5	121.4	123.1	104.0
95°	33.2	36.9	46.4	55.0	70.1	92.8	136.4	218.7	328.6	371.3	324.9
97.5°	54.0	59.1	69.1	82.0	99.5	125.2	179.9	294.7	477.4	633.8	664.9
100°	72.9	75.7	84.3	99.5	118.4	144.9	195.1	310.6	515.2	748.2	884.6
102.5°	90.3	92.5	100.9	116.1	135.8	162.3	208.7	311.4	500.8	752.0	966.5
105°	115.5	119.4	126.0	140.1	161.0	187.5	232.0	316.3	472.6	701.8	953.7
107.5°	142.8	145.9	152.3	165.3	186.1	212.7	255.9	329.4	458.6	648.0	870.6
110°	161.0	164.8	170.5	182.8	202.7	230.2	271.8	340.0	455.6	622.2	818.3



TEST NUMBER: P331674-930

CATALOG NUMBER: SA2XXRDIP-C485D1080U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.7	181.5	187.9	199.4	218.6	246.8	287.0	351.4	456.3	605.6	782.0
115°	203.7	208.4	214.0	225.4	244.3	269.9	310.6	368.4	460.3	587.2	736.9
117.5°	230.6	234.3	240.0	250.1	268.2	294.7	332.4	386.6	467.1	578.3	708.4
120°	247.2	250.9	256.7	265.2	284.1	310.6	347.6	398.8	471.7	573.0	693.2
122.5°	263.1	266.1	271.8	281.1	300.0	327.3	362.0	409.4	477.0	570.0	680.4
125°	284.1	287.0	292.7	304.0	322.9	349.5	383.6	426.2	484.9	564.5	662.0
127.5°	300.8	304.6	312.6	325.1	343.2	370.5	403.7	441.9	493.1	561.3	645.0
130°	310.6	314.5	323.9	337.2	356.1	382.6	415.8	451.8	499.1	559.7	633.7
132.5°	319.8	324.3	334.5	348.5	368.3	394.8	426.4	461.6	505.2	559.0	624.5
135°	333.4	337.2	348.5	362.7	384.5	411.1	441.3	474.5	512.4	557.8	611.8
137.5°	346.3	350.8	362.2	377.3	398.9	423.5	453.5	484.4	518.9	557.7	602.9
140°	356.1	359.9	371.3	386.5	407.2	431.9	460.3	489.7	521.9	556.9	597.6
142.5°	366.0	369.0	379.6	394.8	414.8	438.0	465.6	494.2	524.2	556.9	592.3
145°	380.7	384.5	394.0	408.2	427.1	448.0	473.5	500.1	526.6	555.0	585.3
147.5°	396.6	399.5	408.5	421.7	437.4	455.9	480.0	503.3	527.3	551.6	578.1
150°	407.2	410.1	417.7	430.0	444.2	461.2	483.1	504.8	526.6	549.3	572.0
152.5°	417.8	419.2	426.7	437.6	451.0	466.5	486.1	505.6	525.1	545.5	566.7
155°	432.8	433.7	439.4	449.9	460.3	474.5	490.6	506.7	522.8	538.9	556.9
157.5°	445.3	446.3	450.9	459.9	468.2	480.2	493.8	506.7	518.4	532.1	547.6
160°	453.6	454.6	458.4	465.9	473.5	484.0	495.4	506.7	516.2	527.6	540.8
162.5°	462.0	461.5	465.2	471.2	478.1	486.2	496.1	506.0	513.9	523.7	534.8
165°	471.7	470.8	472.6	478.3	483.1	488.7	497.3	503.9	509.6	516.2	524.7
167.5°	479.6	478.5	480.2	483.8	487.2	490.8	497.0	502.6	505.2	509.6	514.9
170°	484.9	483.1	484.0	486.8	488.7	491.5	496.3	501.0	502.9	505.7	509.6
172.5°	488.0	486.8	486.2	489.1	490.2	492.3	495.5	498.7	499.9	501.2	504.3
175°	491.5	490.6	489.7	491.5	491.5	492.5	494.4	496.3	495.4	496.3	497.3
177.5°	493.3	491.7	491.0	492.5	492.5	492.5	493.3	494.8	493.3	492.5	493.3
180°	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5



TEST NUMBER: P331674-930

CATALOG NUMBER: SA2XXRDIP-C485D1080U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8
2.5°	669.6	670.7	671.8	672.2	672.1	671.8	671.6	671.4
5°	664.3	665.5	666.8	667.2	666.8	666.3	665.9	665.5
7.5°	653.5	653.9	654.3	654.1	653.4	652.6	652.0	651.3
10°	642.8	642.4	642.0	641.4	640.6	639.8	639.0	638.1
12.5°	630.5	629.7	629.0	627.9	626.6	625.3	623.9	622.6
15°	607.4	604.9	602.3	600.3	598.9	597.6	596.2	594.9
17.5°	581.3	578.3	575.2	572.5	570.2	567.9	565.6	563.2
20°	563.1	559.8	556.4	553.2	550.2	547.2	544.3	541.3
22.5°	543.2	538.8	534.5	531.2	529.0	526.8	524.6	522.3
25°	510.1	504.6	499.0	495.2	493.2	491.1	489.2	487.1
27.5°	478.6	472.1	465.6	460.8	457.5	454.4	451.1	447.9
30°	456.2	449.4	442.5	437.2	433.5	429.9	426.2	422.6
32.5°	433.8	426.0	418.1	412.5	409.0	405.6	402.1	398.7
35°	398.8	390.3	381.8	376.0	373.1	370.1	367.1	364.1
37.5°	364.7	355.3	345.9	339.5	336.1	332.7	329.3	325.9
40°	341.9	332.2	322.6	316.1	312.6	309.1	305.5	302.0
42.5°	318.8	308.8	299.0	292.3	288.9	285.4	282.0	278.6
45°	285.2	275.7	266.0	259.6	256.3	253.1	249.8	246.6
47.5°	252.6	243.0	233.5	227.2	224.3	221.4	218.3	215.4
50°	231.5	222.3	212.9	206.8	204.0	201.1	198.3	195.4
52.5°	211.7	202.8	193.7	187.9	185.3	182.7	180.0	177.4
55°	181.6	173.5	165.4	160.0	157.5	154.9	152.4	149.8
57.5°	154.3	146.8	139.4	134.6	132.4	130.3	128.1	125.9
60°	135.3	128.5	121.6	117.1	114.9	112.7	110.6	108.4
62.5°	119.0	112.4	105.8	101.9	100.6	99.3	98.0	96.7
65°	96.8	92.1	87.6	85.0	84.6	84.2	83.8	83.4
67.5°	78.1	76.0	73.9	72.6	72.2	71.7	71.3	70.8
70°	67.9	66.6	65.2	64.2	63.8	63.2	62.6	62.1
72.5°	59.1	58.0	56.8	56.1	55.8	55.4	55.1	54.8
75°	46.8	45.9	44.9	44.4	44.3	44.1	43.9	43.9
77.5°	35.5	34.9	34.4	34.0	33.8	33.6	33.3	33.1
80°	28.1	27.6	27.1	26.8	26.8	26.8	26.8	26.8
82.5°	21.3	21.0	20.6	20.5	20.5	20.5	20.5	20.5
85°	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
87.5°	9.7	9.3	9.5	9.6	9.6	9.6	9.6	9.6
90°	30.3	28.5	30.3	31.2	31.2	31.2	31.2	31.2
92.5°	82.6	70.8	62.9	57.0	56.3	53.2	54.0	52.5
95°	248.2	190.4	150.6	129.7	117.4	109.9	107.0	107.9
97.5°	579.0	473.8	371.3	302.9	257.6	234.3	220.5	212.5
100°	864.7	747.3	617.5	502.9	424.3	383.6	356.1	339.1
102.5°	1051.9	1025.3	930.4	809.0	723.6	654.1	619.8	596.7
105°	1150.7	1257.8	1270.1	1238.8	1180.1	1121.4	1080.7	1067.4
107.5°	1079.5	1240.7	1339.2	1385.0	1392.4	1389.2	1381.0	1363.4
110°	1018.1	1187.6	1308.9	1386.6	1427.3	1445.3	1453.8	1452.9



TEST NUMBER: P331674-930

CATALOG NUMBER: SA2XXRDIP-C485D1080U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	962.1	1124.8	1254.3	1343.4	1400.0	1430.1	1446.3	1451.3
115°	893.2	1039.0	1163.0	1260.6	1327.9	1371.4	1396.0	1404.6
117.5°	841.2	969.3	1081.8	1173.3	1241.9	1287.8	1313.9	1321.0
120°	815.5	932.9	1033.3	1119.5	1185.8	1230.3	1257.8	1267.2
122.5°	795.0	902.6	997.7	1075.5	1135.0	1178.8	1203.2	1211.1
125°	765.2	862.8	946.2	1017.2	1072.1	1108.2	1131.8	1139.4
127.5°	735.9	824.2	902.8	968.3	1016.3	1049.9	1070.4	1076.5
130°	717.0	798.4	873.3	935.7	982.2	1014.4	1033.3	1040.9
132.5°	698.8	774.2	842.9	901.6	947.3	979.5	996.9	1003.7
135°	673.4	735.9	798.4	851.4	892.2	923.4	940.4	944.3
137.5°	653.1	705.4	755.0	801.3	838.4	865.3	880.3	885.9
140°	640.3	685.7	729.3	770.9	801.3	825.9	840.1	845.8
142.5°	629.7	668.3	705.8	740.6	769.4	791.8	804.5	805.6
145°	614.7	646.0	675.3	702.8	725.5	741.6	751.1	753.9
147.5°	603.2	627.8	650.7	670.7	689.5	702.4	708.8	710.5
150°	594.8	615.6	635.5	652.6	666.8	678.2	683.8	684.8
152.5°	586.4	605.8	622.6	637.4	648.6	658.4	662.6	662.8
155°	574.9	590.0	604.2	614.7	625.1	631.7	635.5	633.7
157.5°	561.4	574.1	586.0	594.2	601.6	607.1	608.8	608.8
160°	553.1	563.5	574.0	580.6	587.2	591.9	592.9	592.9
162.5°	544.8	553.7	562.6	567.7	574.3	577.6	578.5	577.7
165°	532.3	538.9	545.5	549.3	553.1	556.9	556.9	556.0
167.5°	520.3	525.5	530.0	533.5	535.1	537.2	537.0	535.9
170°	514.3	517.1	520.9	522.8	523.7	526.6	525.6	523.7
172.5°	507.4	509.6	512.6	513.7	514.7	516.0	515.0	513.9
175°	500.1	501.0	502.0	502.9	502.9	503.9	502.9	501.0
177.5°	494.8	494.8	495.5	495.5	495.5	495.5	494.8	493.3
180°	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5

(END OF REPORT)