

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: P331461-940

Luminaire Tested: **SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331461-940
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: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7350.5 lumens
Efficiency: N/A
Efficacy: 102.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

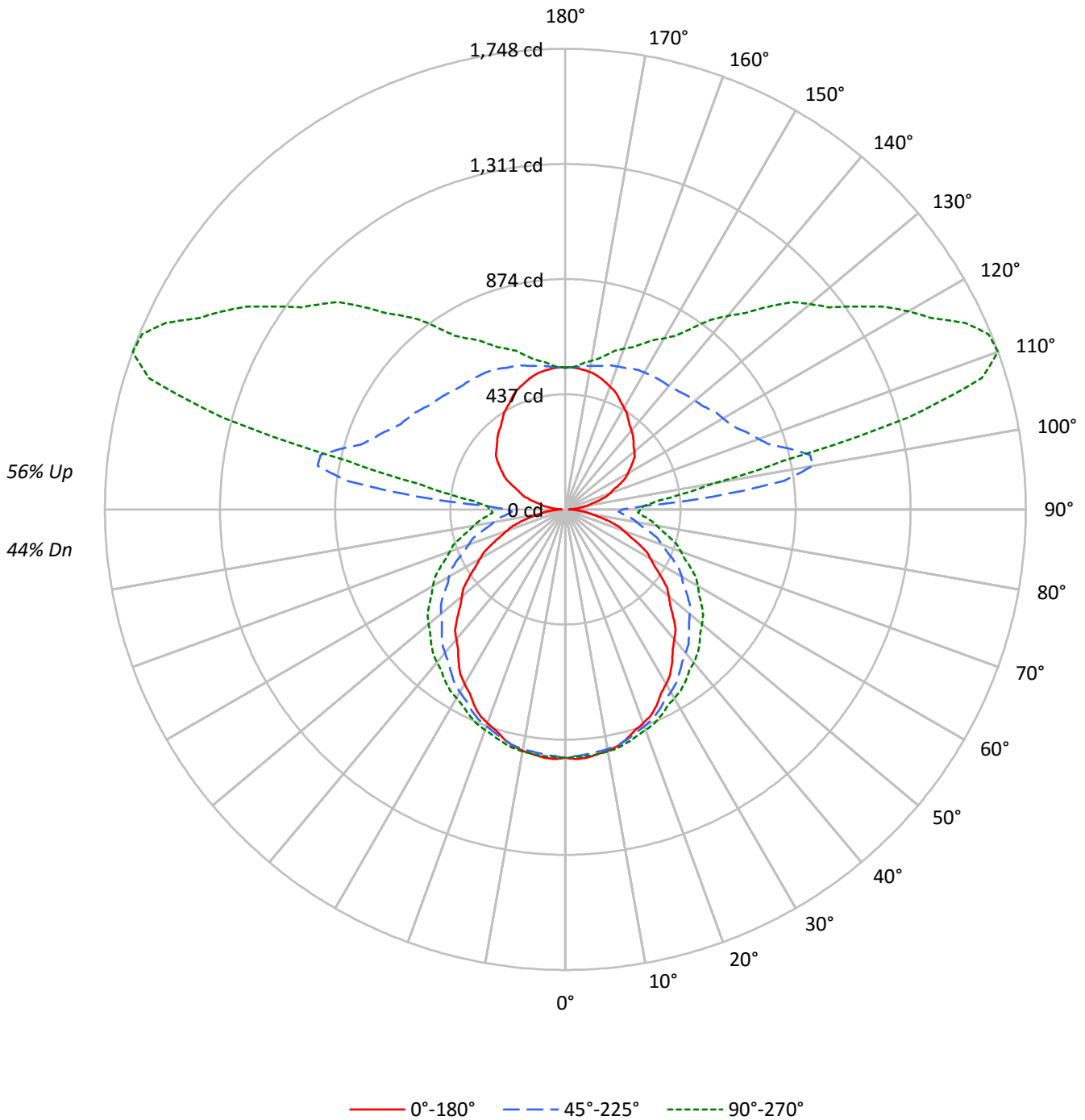
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331461-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331461-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D4

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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44
1	95	90	86	82	87	82	79	75	68	65	63	55	53	51	42	41	40	34
2	86	78	71	66	78	71	66	61	59	54	51	47	44	41	36	34	32	27
3	78	68	60	54	71	62	56	50	51	46	42	41	38	34	32	29	27	23
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	33	28	25	25	22	20	16
6	60	48	39	33	54	44	36	31	36	30	26	29	25	22	23	20	17	14
7	55	43	35	29	50	39	32	27	33	27	23	27	22	19	21	18	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	14	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	18	14	12	10
10	44	32	25	20	41	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15224	15224	15224
5°	15300	14656	14600
10°	15203	14222	14063
15°	14994	13763	13496
20°	14728	13272	12952
25°	14466	12799	12457
30°	14098	12312	11962
35°	13725	11842	11611
40°	13332	11442	11262
45°	12960	11082	10962
50°	12561	10760	10668
55°	12143	10411	10368
60°	11628	10049	10051
65°	11095	9625	9675
70°	10498	9170	9268
75°	9730	8725	8894
80°	8523	8267	8514
85°	7361	7873	8218



TEST NUMBER: P331461-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.3	1.2
10°-20°	256.2	3.5
20°-30°	388.3	5.3
30°-40°	472.9	6.4
40°-50°	508.8	6.9
50°-60°	494.1	6.7
60°-70°	431.4	5.9
70°-80°	332.1	4.5
80°-90°	227.7	3.1
90°-100°	368.9	5.0
100°-110°	843.0	11.5
110°-120°	850.5	11.6
120°-130°	680.5	9.3
130°-140°	530.6	7.2
140°-150°	390.9	5.3
150°-160°	272.6	3.7
160°-170°	160.5	2.2
170°-180°	52.2	0.7
0°-30°	733.8	10.0
0°-40°	1206.7	16.4
0°-60°	2209.5	30.1
0°-90°	3200.8	43.5
90°-120°	2062.4	28.1
90°-150°	3664.5	49.9
90°-180°	4150.0	56.5
0°-180°	7350.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	943	943	943	943	943	
5°	946	941	933	941	940	90
15°	902	904	905	916	916	254
25°	820	830	842	858	862	377
35°	706	730	756	785	795	441
45°	579	617	664	705	720	447
55°	444	495	564	612	631	397
65°	303	371	451	505	525	301
75°	168	245	332	389	409	178
85°	49	134	221	277	298	53
90°	15	107	216	267	286	11
95°	47	165	563	360	344	47
105°	133	239	885	1536	1348	142
115°	228	304	724	1447	1674	226
125°	314	373	664	1156	1342	279
135°	366	437	625	945	1087	283
145°	416	479	607	762	840	262
155°	473	511	589	667	693	218
165°	516	531	564	599	608	145
175°	538	538	543	550	548	51
180°	539	539	539	539	539	



TEST NUMBER: P331461-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	948.4	947.7	946.9	946.2	945.5	944.2	942.5	940.8	939.1	937.5	938.7
5°	945.7	944.8	943.9	942.9	942.0	940.7	938.9	937.0	935.2	933.4	935.2
7.5°	937.2	936.6	935.9	935.4	934.8	933.8	932.4	930.9	929.6	928.2	930.3
10°	930.7	930.1	929.4	928.8	928.2	927.5	926.6	925.6	924.7	923.8	926.2
12.5°	919.7	919.8	920.0	920.1	920.2	919.9	919.3	918.6	917.9	917.2	919.7
15°	902.0	902.6	903.1	903.7	904.4	904.6	904.6	904.6	904.6	904.6	907.4
17.5°	879.0	880.3	881.5	882.8	884.0	885.2	886.2	887.2	888.1	889.1	892.0
20°	863.7	865.2	866.7	868.3	869.8	871.1	872.4	873.5	874.8	876.0	879.3
22.5°	847.3	849.0	850.8	852.6	854.3	856.0	857.7	859.4	861.1	862.8	866.2
25°	819.9	822.1	824.2	826.3	828.5	830.9	833.6	836.3	839.1	841.8	845.4
27.5°	787.1	790.6	794.1	797.5	801.0	804.3	807.5	810.7	814.0	817.3	821.8
30°	765.3	769.2	773.2	777.1	781.0	785.1	789.0	792.9	796.8	800.8	805.7
32.5°	741.2	745.6	750.1	754.6	758.9	763.5	768.2	772.8	777.6	782.2	787.8
35°	706.5	711.7	716.8	722.0	727.2	732.6	738.4	744.1	749.9	755.7	762.4
37.5°	668.8	674.8	680.7	686.6	692.6	699.3	706.8	714.3	721.8	729.2	736.6
40°	643.6	650.3	657.0	663.7	670.4	677.8	686.0	694.2	702.4	710.6	718.5
42.5°	619.6	626.2	632.9	639.6	646.3	654.3	663.8	673.2	682.6	692.1	700.6
45°	579.4	587.6	595.8	604.0	612.2	621.6	632.3	642.9	653.5	664.1	673.6
47.5°	539.8	548.8	557.7	566.6	575.5	586.2	598.7	611.1	623.6	636.0	645.9
50°	512.5	521.9	531.3	540.7	550.1	561.7	575.3	589.0	602.6	616.4	626.7
52.5°	486.2	496.1	506.0	515.9	525.8	538.0	552.3	566.8	581.1	595.6	606.1
55°	444.2	455.0	466.0	477.0	487.9	501.2	517.0	532.8	548.6	564.4	575.3
57.5°	402.6	414.9	427.2	439.6	451.9	466.1	482.2	498.3	514.4	530.5	542.2
60°	373.1	386.1	399.2	412.2	425.3	440.5	457.8	475.1	492.4	509.7	521.3
62.5°	346.9	360.3	373.9	387.4	401.0	416.4	433.7	451.0	468.4	485.7	497.9
65°	303.4	318.3	333.1	348.0	362.9	379.3	397.3	415.1	433.0	450.9	463.4
67.5°	263.5	279.0	294.5	310.1	325.7	342.6	361.0	379.3	397.6	416.0	428.6
70°	235.1	250.8	266.6	282.4	298.2	315.5	334.4	353.2	372.0	390.8	403.9
72.5°	208.8	225.1	241.4	257.6	273.9	291.6	310.7	329.8	348.8	367.9	380.7
75°	168.1	185.1	202.1	219.1	236.1	254.3	273.8	293.2	312.6	332.1	345.1
77.5°	128.8	146.5	164.3	182.1	199.9	218.6	238.4	258.2	277.9	297.7	310.7
80°	102.5	121.0	139.6	158.1	176.6	195.7	215.4	235.2	254.9	274.6	287.4
82.5°	80.6	98.9	117.2	135.5	153.7	172.9	192.9	212.9	232.8	252.8	265.6
85°	49.2	68.0	86.9	105.7	124.5	143.7	163.1	182.5	202.0	221.4	234.2
87.5°	27.0	45.7	64.6	83.2	101.7	121.1	141.5	162.4	183.1	202.8	214.9
90°	14.7	35.4	57.2	76.9	96.6	118.2	142.8	169.5	195.1	215.6	226.8
92.5°	25.2	47.2	71.1	92.0	115.5	142.8	184.9	236.5	284.6	305.2	296.2
95°	47.2	65.6	90.2	113.9	144.6	185.8	251.6	360.0	498.4	563.2	524.0
97.5°	68.6	86.9	110.6	137.3	169.1	212.4	289.7	432.7	650.0	838.7	883.9
100°	89.3	103.7	124.2	152.0	184.0	227.1	299.0	442.4	683.1	955.0	1115.4
102.5°	107.3	119.8	139.5	166.3	198.0	240.5	307.7	436.6	660.2	951.5	1197.0
105°	133.2	146.2	162.2	186.5	218.2	259.5	324.0	431.9	618.7	885.1	1171.3
107.5°	162.7	173.2	187.3	208.6	238.2	278.5	340.8	436.3	592.8	815.0	1068.7
110°	181.6	191.8	204.1	223.6	251.5	291.9	352.4	441.8	583.2	780.3	1004.5



TEST NUMBER: P331461-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	199.8	209.0	221.1	238.9	264.9	305.4	363.6	448.1	577.0	754.5	957.1
115°	228.2	236.7	246.3	262.0	286.1	322.5	380.8	457.6	571.8	724.2	897.0
117.5°	256.2	262.5	271.0	284.1	306.2	342.6	396.5	468.3	569.1	703.3	854.6
120°	274.5	279.8	287.2	297.8	319.7	355.4	408.0	476.0	567.9	690.9	831.0
122.5°	291.9	295.7	302.4	313.0	334.2	370.0	419.3	482.5	567.9	681.1	810.1
125°	313.5	316.6	322.8	335.3	356.0	389.9	436.8	493.2	567.1	663.9	778.7
127.5°	331.7	335.6	343.9	357.3	376.9	410.5	454.6	504.3	568.1	650.5	749.6
130°	342.5	346.3	356.4	370.6	391.0	423.0	465.7	511.4	569.6	642.3	730.3
132.5°	352.4	357.1	368.0	383.0	404.3	435.6	475.1	518.5	571.1	634.9	713.6
135°	366.0	370.1	382.5	398.1	422.0	452.5	488.7	527.9	572.4	625.2	690.5
137.5°	380.0	385.0	397.3	413.8	437.5	465.0	499.1	534.2	573.2	617.1	672.2
140°	390.8	394.7	406.8	423.1	445.6	472.7	504.4	537.1	572.9	611.8	661.2
142.5°	401.6	404.7	415.9	432.2	453.9	479.0	509.4	540.8	573.6	609.7	652.3
145°	416.4	420.5	431.0	446.5	467.2	490.0	517.9	547.0	576.0	607.0	642.0
147.5°	433.8	436.9	446.8	461.2	478.4	498.6	525.0	550.5	576.8	603.3	632.6
150°	445.4	448.5	456.8	470.3	485.8	504.4	528.3	552.1	576.0	600.8	625.6
152.5°	457.0	458.5	466.7	478.6	493.3	510.2	531.6	552.9	574.3	596.6	619.8
155°	473.4	474.4	480.6	492.0	503.5	519.0	536.5	554.2	571.8	589.4	609.1
157.5°	487.1	488.1	493.1	503.0	512.1	525.2	540.1	554.2	567.0	581.9	599.0
160°	496.1	497.2	501.3	509.6	517.9	529.3	541.8	554.2	564.5	577.0	591.5
162.5°	505.3	504.7	508.8	515.4	522.9	531.8	542.6	553.4	562.0	572.8	584.9
165°	515.9	514.9	516.9	523.1	528.3	534.5	543.9	551.1	557.3	564.5	573.9
167.5°	524.6	523.3	525.2	529.1	532.9	536.8	543.6	549.7	552.5	557.3	563.1
170°	530.4	528.3	529.3	532.4	534.5	537.6	542.8	548.0	550.0	553.1	557.3
172.5°	533.7	532.4	531.8	534.9	536.2	538.4	542.0	545.5	546.7	548.2	551.5
175°	537.6	536.5	535.6	537.6	537.6	538.7	540.7	542.8	541.8	542.8	543.9
177.5°	539.5	537.8	537.0	538.7	538.7	538.7	539.5	541.2	539.5	538.7	539.5
180°	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7



TEST NUMBER: P331461-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	939.9	941.1	942.4	942.7	942.2	941.7	941.2	940.8
5°	937.0	938.9	940.7	941.4	941.1	940.8	940.5	940.2
7.5°	932.6	934.8	936.9	937.9	937.5	937.3	936.9	936.7
10°	928.6	931.1	933.5	934.6	934.2	934.0	933.7	933.4
12.5°	922.1	924.5	926.9	928.0	927.7	927.4	927.1	926.8
15°	910.2	912.8	915.6	916.9	916.5	916.2	915.9	915.6
17.5°	894.8	897.7	900.5	902.0	902.0	902.0	902.0	902.0
20°	882.6	886.0	889.3	891.0	891.0	891.0	891.0	891.0
22.5°	869.5	872.9	876.2	878.2	878.6	879.1	879.6	880.1
25°	849.1	852.7	856.4	858.6	859.6	860.5	861.4	862.3
27.5°	826.4	831.1	835.7	838.3	839.0	839.6	840.3	841.0
30°	810.6	815.4	820.3	823.1	824.0	824.9	825.9	826.8
32.5°	793.4	799.0	804.6	808.2	809.9	811.5	813.2	814.8
35°	769.1	775.8	782.5	786.8	789.0	791.1	793.3	795.3
37.5°	744.0	751.4	758.8	763.7	765.9	768.2	770.4	772.7
40°	726.4	734.3	742.2	747.5	750.3	753.0	755.7	758.5
42.5°	709.3	717.9	726.6	732.2	734.9	737.7	740.4	743.2
45°	683.0	692.4	701.8	708.0	711.1	714.1	717.1	720.1
47.5°	655.7	665.5	675.4	682.0	685.3	688.7	692.0	695.4
50°	636.9	647.3	657.6	664.5	667.8	671.1	674.5	677.8
52.5°	616.7	627.2	637.8	644.9	648.5	652.1	655.7	659.2
55°	586.3	597.2	608.1	615.5	619.5	623.5	627.4	631.3
57.5°	554.1	565.9	577.7	585.5	589.5	593.5	597.5	601.5
60°	532.8	544.4	555.9	563.8	568.0	572.3	576.6	580.8
62.5°	510.2	522.5	534.8	542.9	546.9	550.9	554.9	558.9
65°	475.9	488.3	500.8	509.0	512.9	516.8	520.8	524.8
67.5°	441.1	453.7	466.3	474.7	478.8	482.9	487.1	491.2
70°	417.0	430.0	443.1	451.4	455.0	458.7	462.4	466.0
72.5°	393.5	406.4	419.1	427.8	432.1	436.5	440.9	445.2
75°	358.2	371.2	384.3	392.8	396.7	400.7	404.7	408.6
77.5°	323.6	336.6	349.6	358.3	362.5	366.8	371.0	375.2
80°	300.1	313.0	325.7	334.2	338.5	342.7	347.0	351.2
82.5°	278.3	291.1	303.8	312.2	316.2	320.2	324.2	328.2
85°	246.9	259.7	272.4	280.9	285.2	289.4	293.6	297.9
87.5°	227.1	239.1	251.9	260.2	264.1	268.0	271.9	275.8
90°	237.8	247.9	262.2	271.1	274.7	278.3	282.0	285.6
92.5°	284.7	283.7	287.0	288.3	291.1	291.4	296.0	297.9
95°	451.7	400.0	368.0	352.8	343.0	338.3	338.9	343.6
97.5°	801.2	697.2	596.4	529.1	483.1	461.2	449.7	444.5
100°	1104.9	987.7	857.0	739.0	656.3	615.1	588.4	573.1
102.5°	1301.5	1283.4	1190.6	1065.0	974.9	902.2	868.1	846.1
105°	1397.4	1525.1	1549.2	1522.0	1461.1	1400.2	1359.0	1347.8
107.5°	1307.4	1493.9	1611.9	1668.7	1680.2	1680.0	1674.5	1658.5
110°	1232.8	1427.9	1570.2	1661.7	1709.6	1732.6	1745.3	1747.6



TEST NUMBER: P331461-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1163.8	1351.5	1502.9	1606.8	1672.0	1708.3	1729.3	1738.2
115°	1077.0	1245.7	1390.5	1503.4	1580.3	1631.3	1661.5	1674.2
117.5°	1008.8	1157.9	1289.9	1396.1	1474.1	1527.6	1559.1	1570.0
120°	973.1	1110.1	1228.4	1328.6	1404.4	1456.4	1489.9	1503.5
122.5°	943.7	1069.6	1181.9	1272.6	1340.5	1391.2	1420.8	1432.4
125°	899.8	1014.8	1114.1	1197.3	1260.1	1302.2	1330.8	1341.8
127.5°	856.6	960.6	1054.2	1131.0	1186.0	1225.6	1250.6	1259.9
130°	828.8	925.1	1014.3	1087.5	1140.7	1178.4	1201.5	1212.2
132.5°	801.8	891.4	973.7	1042.6	1094.9	1132.6	1154.1	1164.0
135°	764.3	839.0	913.8	976.2	1023.1	1059.8	1080.8	1087.4
137.5°	732.6	795.4	855.2	909.6	952.3	983.8	1002.2	1010.5
140°	712.7	767.3	819.7	868.7	903.7	932.5	949.8	957.9
142.5°	697.0	743.2	788.0	828.8	861.9	888.0	903.5	906.2
145°	675.9	711.9	745.8	777.6	804.0	823.0	835.0	839.5
147.5°	660.1	687.3	712.7	735.0	756.3	771.2	778.9	781.5
150°	650.5	673.3	695.1	713.7	729.2	741.7	747.9	748.9
152.5°	641.4	662.5	681.0	697.1	709.4	720.1	724.7	724.9
155°	628.7	645.3	660.8	672.3	683.7	690.9	695.1	693.0
157.5°	614.0	627.9	641.0	649.9	658.0	664.0	665.8	665.8
160°	604.9	616.4	627.8	635.0	642.2	647.4	648.5	648.5
162.5°	595.8	605.6	615.3	620.9	628.1	631.7	632.7	631.9
165°	582.2	589.4	596.6	600.8	604.9	609.1	609.1	608.1
167.5°	569.1	574.7	579.7	583.4	585.2	587.5	587.4	586.1
170°	562.5	565.6	569.7	571.8	572.8	576.0	574.9	572.8
172.5°	555.0	557.3	560.6	561.9	562.9	564.4	563.3	562.0
175°	547.0	548.0	549.0	550.0	550.0	551.1	550.0	548.0
177.5°	541.2	541.2	542.0	542.0	542.0	542.0	541.2	539.5
180°	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7

(END OF REPORT)