

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: P331461-927

Luminaire Tested: **SA2XXDIP-C1005D1080U927-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331461-927
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-C1005D1080U927-4F0-1E-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: 6530.1 lumens
Efficiency: N/A
Efficacy: 91.1 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

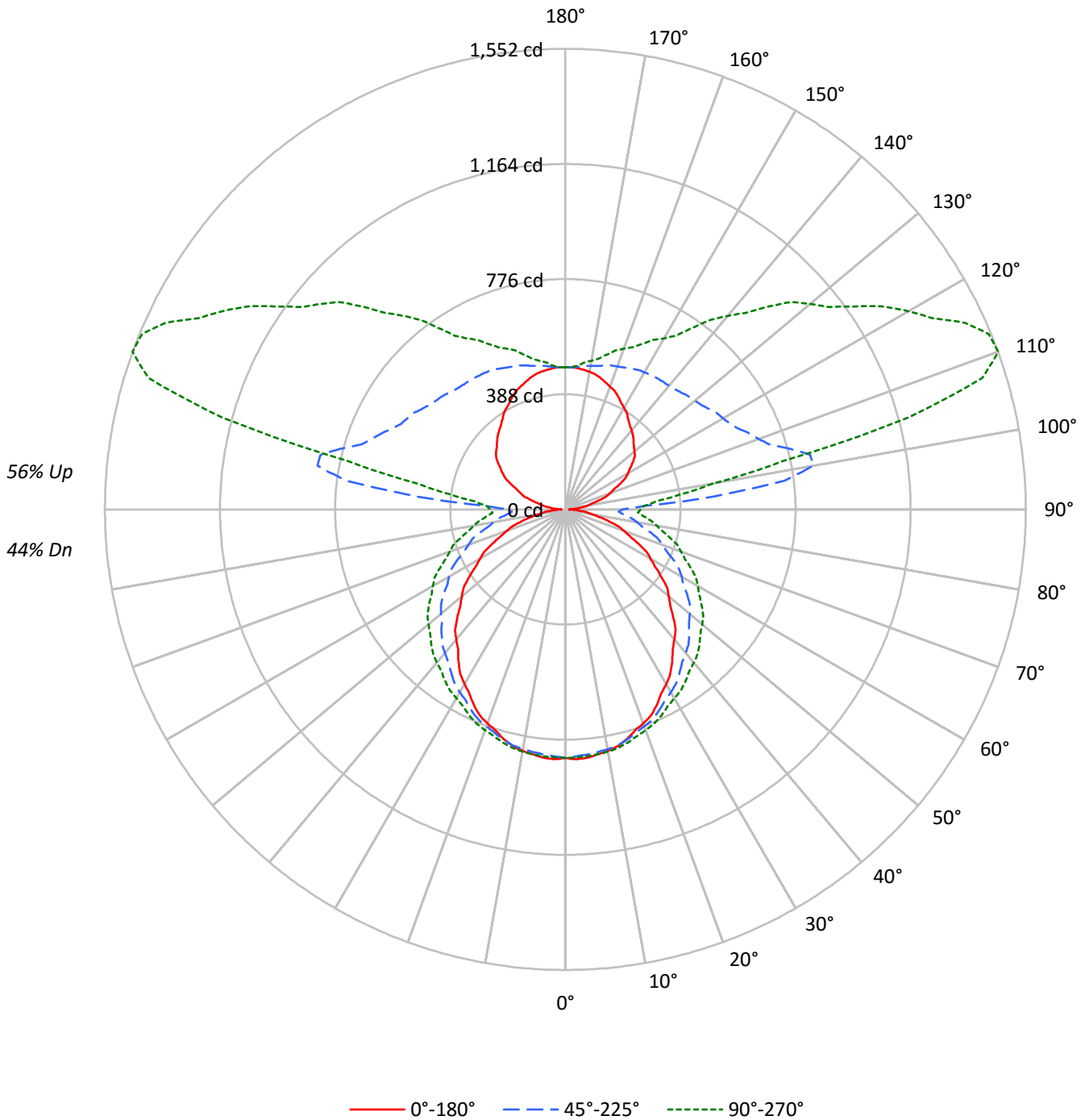
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331461-927

CATALOG NUMBER: SA2XXDIP-C1005D1080U927-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331461-927

CATALOG NUMBER: SA2XXDIP-C1005D1080U927-4F0-1E-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°	13525	13525	13525
5°	13591	13020	12971
10°	13506	12635	12493
15°	13320	12228	11990
20°	13085	11791	11506
25°	12852	11370	11066
30°	12525	10939	10626
35°	12192	10521	10314
40°	11845	10165	10004
45°	11515	9846	9739
50°	11159	9559	9477
55°	10787	9249	9211
60°	10329	8927	8928
65°	9856	8551	8595
70°	9323	8147	8233
75°	8642	7750	7901
80°	7567	7345	7563
85°	6539	6995	7303



TEST NUMBER: P331461-927

CATALOG NUMBER: SA2XXDIP-C1005D1080U927-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.4	1.2
10°-20°	227.6	3.5
20°-30°	344.9	5.3
30°-40°	420.1	6.4
40°-50°	452.0	6.9
50°-60°	438.9	6.7
60°-70°	383.2	5.9
70°-80°	295.0	4.5
80°-90°	202.3	3.1
90°-100°	327.8	5.0
100°-110°	748.9	11.5
110°-120°	755.6	11.6
120°-130°	604.6	9.3
130°-140°	471.4	7.2
140°-150°	347.3	5.3
150°-160°	242.2	3.7
160°-170°	142.6	2.2
170°-180°	46.4	0.7
0°-30°	651.9	10.0
0°-40°	1072.0	16.4
0°-60°	1962.9	30.1
0°-90°	2843.5	43.5
90°-120°	1832.2	28.1
90°-150°	3255.5	49.9
90°-180°	3687.0	56.5
0°-180°	6530.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	838	838	838	838	838	
5°	840	836	829	836	835	80
15°	801	804	804	814	813	226
25°	728	737	748	762	766	335
35°	628	648	671	697	706	392
45°	515	548	590	626	640	397
55°	395	439	501	544	561	353
65°	270	330	401	449	466	268
75°	149	218	295	345	363	158
85°	44	119	197	246	265	47
90°	13	95	192	237	254	10
95°	42	147	500	320	305	42
105°	118	212	786	1364	1197	126
115°	203	270	643	1285	1487	201
125°	278	331	590	1027	1192	248
135°	325	388	555	840	966	252
145°	370	425	539	677	746	232
155°	421	454	524	592	616	193
165°	458	472	502	532	540	129
175°	478	478	482	488	487	45
180°	479	479	479	479	479	



TEST NUMBER: P331461-927

CATALOG NUMBER: SA2XXDIP-C1005D1080U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7
2.5°	842.6	841.9	841.2	840.6	840.0	838.8	837.3	835.8	834.3	832.8	833.9
5°	840.1	839.3	838.5	837.7	836.9	835.7	834.1	832.4	830.8	829.2	830.8
7.5°	832.6	832.0	831.5	831.0	830.4	829.6	828.3	827.0	825.9	824.6	826.5
10°	826.8	826.2	825.7	825.1	824.6	823.9	823.2	822.3	821.5	820.7	822.8
12.5°	817.1	817.1	817.3	817.4	817.5	817.2	816.7	816.0	815.5	814.8	817.1
15°	801.3	801.8	802.3	802.9	803.4	803.7	803.7	803.7	803.7	803.7	806.1
17.5°	780.9	782.0	783.2	784.3	785.4	786.4	787.3	788.1	789.0	789.9	792.4
20°	767.3	768.7	770.0	771.3	772.7	773.9	775.0	776.0	777.1	778.2	781.2
22.5°	752.7	754.2	755.8	757.4	759.0	760.5	762.0	763.5	765.0	766.5	769.5
25°	728.4	730.3	732.2	734.1	736.0	738.2	740.5	743.0	745.4	747.8	751.1
27.5°	699.3	702.3	705.4	708.5	711.6	714.5	717.4	720.3	723.1	726.0	730.1
30°	679.9	683.3	686.9	690.4	693.9	697.4	700.9	704.4	707.9	711.5	715.7
32.5°	658.5	662.4	666.4	670.3	674.2	678.3	682.5	686.6	690.8	694.9	699.9
35°	627.6	632.2	636.8	641.4	646.0	650.9	656.0	661.1	666.2	671.4	677.3
37.5°	594.1	599.4	604.8	610.0	615.3	621.2	627.9	634.5	641.2	647.8	654.4
40°	571.8	577.7	583.7	589.6	595.6	602.1	609.4	616.7	624.0	631.3	638.3
42.5°	550.5	556.3	562.3	568.2	574.2	581.3	589.7	598.1	606.4	614.8	622.4
45°	514.8	522.0	529.3	536.6	543.9	552.2	561.7	571.2	580.6	590.0	598.4
47.5°	479.6	487.5	495.4	503.4	511.3	520.8	531.9	542.9	554.0	565.0	573.8
50°	455.3	463.7	472.0	480.4	488.7	499.0	511.1	523.2	535.4	547.6	556.7
52.5°	432.0	440.8	449.6	458.4	467.1	477.9	490.7	503.5	516.3	529.1	538.4
55°	394.6	404.3	414.0	423.7	433.4	445.3	459.3	473.3	487.4	501.4	511.1
57.5°	357.7	368.6	379.5	390.5	401.5	414.1	428.4	442.7	457.0	471.3	481.7
60°	331.4	343.0	354.7	366.2	377.9	391.3	406.7	422.1	437.4	452.8	463.1
62.5°	308.2	320.1	332.2	344.2	356.2	369.9	385.3	400.7	416.1	431.5	442.4
65°	269.5	282.7	296.0	309.2	322.4	337.0	352.9	368.8	384.7	400.6	411.7
67.5°	234.1	247.9	261.7	275.5	289.3	304.4	320.7	337.0	353.2	369.6	380.7
70°	208.8	222.8	236.9	250.9	264.9	280.3	297.1	313.8	330.5	347.2	358.8
72.5°	185.5	199.9	214.4	228.9	243.4	259.0	276.0	292.9	309.9	326.9	338.2
75°	149.3	164.5	179.5	194.6	209.8	225.9	243.2	260.5	277.7	295.0	306.6
77.5°	114.4	130.2	146.0	161.8	177.6	194.2	211.8	229.3	246.8	264.4	276.0
80°	91.0	107.5	124.0	140.5	156.9	173.9	191.4	209.0	226.5	244.0	255.3
82.5°	71.6	87.9	104.1	120.3	136.6	153.6	171.3	189.1	206.8	224.6	235.9
85°	43.7	60.4	77.2	93.9	110.6	127.6	144.9	162.2	179.4	196.7	208.0
87.5°	24.0	40.6	57.4	73.9	90.3	107.6	125.7	144.3	162.6	180.1	190.9
90°	13.1	31.4	50.8	68.3	85.8	105.0	126.8	150.6	173.3	191.5	201.5
92.5°	22.4	41.9	63.1	81.8	102.6	126.8	164.2	210.1	252.9	271.2	263.2
95°	41.9	58.3	80.2	101.2	128.5	165.1	223.6	319.8	442.8	500.3	465.5
97.5°	60.9	77.2	98.2	122.0	150.2	188.7	257.4	384.4	577.4	745.0	785.2
100°	79.4	92.1	110.4	135.1	163.4	201.8	265.6	393.0	606.9	848.4	990.9
102.5°	95.3	106.5	123.9	147.7	175.9	213.7	273.4	387.9	586.5	845.3	1063.4
105°	118.4	129.8	144.1	165.7	193.8	230.5	287.8	383.7	549.6	786.3	1040.5
107.5°	144.6	153.8	166.4	185.3	211.6	247.4	302.8	387.6	526.6	724.1	949.4
110°	161.3	170.4	181.3	198.7	223.4	259.4	313.1	392.5	518.1	693.2	892.4



TEST NUMBER: P331461-927

CATALOG NUMBER: SA2XXDIP-C1005D1080U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.5	185.7	196.5	212.2	235.4	271.3	323.0	398.1	512.6	670.3	850.2
115°	202.7	210.2	218.8	232.7	254.1	286.5	338.3	406.5	507.9	643.4	796.9
117.5°	227.6	233.2	240.7	252.4	272.0	304.4	352.2	416.1	505.6	624.8	759.2
120°	243.8	248.6	255.2	264.6	284.0	315.8	362.4	422.9	504.5	613.8	738.2
122.5°	259.3	262.7	268.6	278.1	296.9	328.7	372.5	428.6	504.5	605.1	719.7
125°	278.5	281.3	286.8	297.9	316.2	346.3	388.1	438.2	503.8	589.8	691.8
127.5°	294.7	298.1	305.5	317.4	334.9	364.7	403.9	448.0	504.7	577.9	665.9
130°	304.3	307.7	316.6	329.2	347.4	375.8	413.7	454.3	506.0	570.6	648.8
132.5°	313.1	317.3	326.9	340.2	359.2	387.0	422.1	460.7	507.4	564.0	634.0
135°	325.1	328.8	339.8	353.7	374.9	402.0	434.1	469.0	508.5	555.4	613.5
137.5°	337.6	342.0	353.0	367.7	388.6	413.1	443.4	474.6	509.2	548.2	597.1
140°	347.2	350.6	361.4	375.9	395.9	419.9	448.1	477.1	509.0	543.5	587.4
142.5°	356.8	359.5	369.5	384.0	403.2	425.6	452.6	480.5	509.6	541.6	579.5
145°	369.9	373.6	382.9	396.6	415.0	435.3	460.1	485.9	511.7	539.2	570.4
147.5°	385.4	388.2	397.0	409.7	425.0	443.0	466.4	489.0	512.4	536.0	562.0
150°	395.7	398.5	405.8	417.8	431.6	448.1	469.4	490.5	511.7	533.8	555.8
152.5°	406.0	407.3	414.6	425.2	438.2	453.3	472.3	491.2	510.2	530.0	550.6
155°	420.6	421.4	427.0	437.1	447.3	461.1	476.7	492.3	507.9	523.6	541.1
157.5°	432.7	433.6	438.1	446.9	455.0	466.6	479.8	492.3	503.7	517.0	532.1
160°	440.8	441.7	445.4	452.7	460.1	470.2	481.3	492.3	501.5	512.6	525.5
162.5°	448.9	448.4	452.0	457.9	464.5	472.5	482.0	491.6	499.3	508.9	519.6
165°	458.3	457.4	459.2	464.7	469.4	474.8	483.2	489.6	495.1	501.5	509.8
167.5°	466.0	464.9	466.6	470.1	473.4	476.9	482.9	488.3	490.8	495.1	500.3
170°	471.2	469.4	470.2	473.0	474.8	477.6	482.2	486.8	488.6	491.4	495.1
172.5°	474.1	473.0	472.5	475.2	476.3	478.3	481.5	484.6	485.7	487.0	490.0
175°	477.6	476.7	475.8	477.6	477.6	478.6	480.4	482.2	481.3	482.2	483.2
177.5°	479.3	477.8	477.1	478.6	478.6	478.6	479.3	480.8	479.3	478.6	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6



TEST NUMBER: P331461-927

CATALOG NUMBER: SA2XXDIP-C1005D1080U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7
2.5°	835.0	836.1	837.2	837.5	837.0	836.6	836.1	835.8
5°	832.4	834.1	835.7	836.3	836.1	835.8	835.5	835.3
7.5°	828.5	830.4	832.3	833.2	832.9	832.7	832.3	832.1
10°	825.0	827.2	829.3	830.3	830.0	829.7	829.5	829.2
12.5°	819.2	821.3	823.5	824.4	824.2	823.9	823.6	823.4
15°	808.6	811.0	813.4	814.5	814.2	814.0	813.7	813.4
17.5°	795.0	797.5	800.0	801.3	801.3	801.3	801.3	801.3
20°	784.1	787.1	790.0	791.5	791.5	791.5	791.5	791.5
22.5°	772.5	775.5	778.4	780.1	780.5	781.0	781.4	781.9
25°	754.3	757.6	760.8	762.8	763.7	764.5	765.2	766.0
27.5°	734.2	738.3	742.4	744.7	745.4	745.9	746.6	747.1
30°	720.1	724.4	728.7	731.3	732.1	732.8	733.7	734.5
32.5°	704.9	709.8	714.8	718.0	719.5	720.9	722.4	723.8
35°	683.3	689.2	695.1	699.0	700.9	702.8	704.7	706.5
37.5°	661.0	667.6	674.1	678.4	680.4	682.5	684.4	686.4
40°	645.3	652.4	659.3	664.1	666.5	668.9	671.4	673.8
42.5°	630.1	637.8	645.5	650.5	652.9	655.4	657.7	660.2
45°	606.7	615.1	623.4	629.0	631.7	634.4	637.1	639.8
47.5°	582.5	591.2	600.0	605.9	608.8	611.8	614.7	617.7
50°	565.9	575.0	584.2	590.3	593.3	596.2	599.2	602.1
52.5°	547.9	557.2	566.6	572.9	576.1	579.3	582.5	585.7
55°	520.9	530.5	540.3	546.8	550.3	553.9	557.4	560.9
57.5°	492.3	502.7	513.2	520.1	523.7	527.3	530.8	534.4
60°	473.3	483.6	493.8	500.9	504.6	508.4	512.2	515.9
62.5°	453.3	464.1	475.1	482.3	485.8	489.4	493.0	496.5
65°	422.8	433.8	444.9	452.2	455.7	459.1	462.7	466.2
67.5°	391.9	403.1	414.2	421.7	425.3	429.0	432.7	436.3
70°	370.4	382.0	393.6	401.0	404.3	407.5	410.7	414.0
72.5°	349.6	361.0	372.3	380.0	383.9	387.8	391.7	395.5
75°	318.2	329.8	341.4	349.0	352.4	356.0	359.5	363.0
77.5°	287.5	299.0	310.6	318.3	322.0	325.8	329.6	333.4
80°	266.6	278.1	289.4	296.9	300.7	304.4	308.2	312.0
82.5°	247.2	258.6	269.9	277.3	280.9	284.5	288.0	291.6
85°	219.4	230.7	242.0	249.5	253.3	257.1	260.9	264.7
87.5°	201.8	212.4	223.8	231.2	234.6	238.1	241.5	245.0
90°	211.3	220.2	232.9	240.8	244.1	247.2	250.5	253.7
92.5°	252.9	252.1	254.9	256.1	258.6	258.9	262.9	264.7
95°	401.2	355.4	326.9	313.5	304.8	300.6	301.1	305.2
97.5°	711.8	619.4	529.8	470.0	429.2	409.7	399.5	394.9
100°	981.6	877.4	761.4	656.5	583.0	546.4	522.8	509.1
102.5°	1156.2	1140.2	1057.7	946.1	866.1	801.5	771.2	751.7
105°	1241.4	1354.9	1376.3	1352.1	1298.0	1243.9	1207.3	1197.4
107.5°	1161.5	1327.1	1431.9	1482.5	1492.6	1492.5	1487.6	1473.4
110°	1095.2	1268.5	1395.0	1476.2	1518.8	1539.2	1550.5	1552.5



TEST NUMBER: P331461-927

CATALOG NUMBER: SA2XXDIP-C1005D1080U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1033.9	1200.6	1335.1	1427.4	1485.4	1517.7	1536.3	1544.2
115°	956.8	1106.7	1235.3	1335.6	1403.9	1449.2	1476.1	1487.3
117.5°	896.2	1028.6	1146.0	1240.2	1309.6	1357.1	1385.1	1394.8
120°	864.5	986.2	1091.3	1180.3	1247.7	1293.9	1323.6	1335.7
122.5°	838.4	950.2	1050.0	1130.6	1190.9	1236.0	1262.2	1272.5
125°	799.4	901.5	989.8	1063.7	1119.4	1156.8	1182.3	1192.1
127.5°	761.0	853.4	936.5	1004.7	1053.6	1088.8	1111.0	1119.3
130°	736.3	821.9	901.1	966.1	1013.4	1046.9	1067.4	1076.9
132.5°	712.3	791.9	865.0	926.2	972.7	1006.2	1025.2	1034.0
135°	679.0	745.4	811.8	867.2	908.9	941.5	960.2	966.1
137.5°	650.9	706.6	759.8	808.1	846.1	874.0	890.3	897.7
140°	633.2	681.7	728.3	771.7	802.8	828.4	843.8	851.0
142.5°	619.2	660.2	700.1	736.3	765.7	788.9	802.6	805.1
145°	600.5	632.5	662.6	690.8	714.2	731.2	741.8	745.8
147.5°	586.5	610.6	633.1	653.0	671.8	685.1	692.0	694.3
150°	577.9	598.2	617.5	634.1	647.8	658.9	664.4	665.4
152.5°	569.8	588.6	605.0	619.3	630.2	639.8	643.8	644.0
155°	558.6	573.3	587.1	597.2	607.4	613.8	617.5	615.7
157.5°	545.5	557.9	569.4	577.3	584.6	589.9	591.5	591.5
160°	537.4	547.6	557.7	564.1	570.5	575.1	576.1	576.1
162.5°	529.3	538.0	546.6	551.6	558.0	561.2	562.1	561.3
165°	517.2	523.6	530.0	533.8	537.4	541.1	541.1	540.2
167.5°	505.6	510.6	515.0	518.3	519.9	522.0	521.8	520.7
170°	499.7	502.5	506.1	507.9	508.9	511.7	510.7	508.9
172.5°	493.1	495.1	498.0	499.2	500.1	501.4	500.4	499.3
175°	485.9	486.8	487.7	488.6	488.6	489.6	488.6	486.8
177.5°	480.8	480.8	481.5	481.5	481.5	481.5	480.8	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6

(END OF REPORT)