

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: P331389-940

Luminaire Tested: **SA2XXDIP-C865D530U940-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331389-940
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-C865D530U940-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

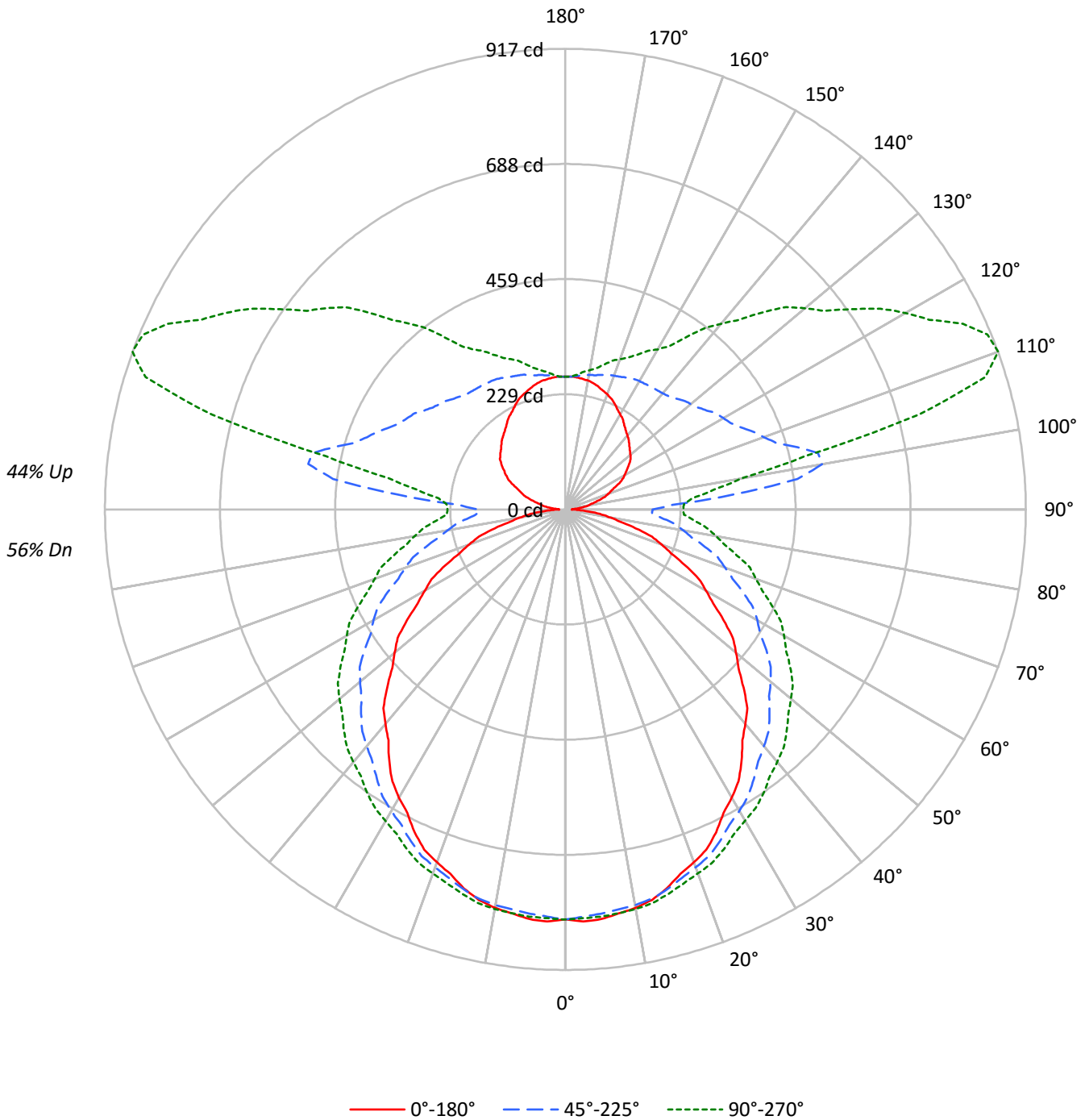
Lumens per Lamp: N/A
Luminaire Lumens: 4957.3 lumens
Efficiency: N/A
Efficacy: 101.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 48.8
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: P331389-940
CATALOG NUMBER: SA2XXDIP-C865D530U940-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331389-940

CATALOG NUMBER: SA2XXDIP-C865D530U940-4F0-1E-UDD-D4

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56																			
1	97	92	88	84	90	86	82	78	73	70	68	62	60	58	52	50	49	44																			
2	88	80	73	67	81	74	68	63	63	59	55	54	50	47	45	42	40	35																			
3	80	69	61	55	74	65	57	52	55	50	45	47	43	39	39	36	33	29																			
4	73	61	53	46	67	57	49	43	49	43	38	41	37	33	34	31	28	24																			
5	67	54	46	39	62	51	43	37	44	37	33	37	32	28	31	27	24	21																			
6	61	49	40	34	57	45	38	32	39	33	28	33	28	25	28	24	21	18																			
7	57	44	35	29	52	41	33	28	35	29	25	30	25	22	25	22	19	16																			
8	53	40	32	26	49	37	30	25	32	26	22	28	23	19	23	19	17	14																			
9	49	36	28	23	45	34	27	22	29	24	20	25	21	17	21	18	15	13																			
10	46	33	26	21	42	31	24	20	27	21	18	23	19	15	20	16	13	11																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13183	13183	13183
5°	13247	12690	12640
10°	13163	12315	12177
15°	12982	11917	11686
20°	12752	11492	11215
25°	12527	11082	10786
30°	12206	10661	10357
35°	11884	10253	10054
40°	11544	9907	9750
45°	11222	9597	9493
50°	10875	9317	9238
55°	10513	9015	8977
60°	10070	8702	8703
65°	9607	8336	8376
70°	9087	7940	8025
75°	8422	7553	7701
80°	7376	7159	7372
85°	6374	6817	7118



TEST NUMBER: P331389-940

CATALOG NUMBER: SA2XXDIP-C865D530U940-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.4	1.6
10°-20°	221.8	4.5
20°-30°	336.2	6.8
30°-40°	409.5	8.3
40°-50°	440.5	8.9
50°-60°	427.8	8.6
60°-70°	373.5	7.5
70°-80°	287.6	5.8
80°-90°	195.4	3.9
90°-100°	238.7	4.8
100°-110°	455.9	9.2
110°-120°	445.3	9.0
120°-130°	349.6	7.1
130°-140°	267.0	5.4
140°-150°	193.0	3.9
150°-160°	133.8	2.7
160°-170°	78.8	1.6
170°-180°	25.6	0.5
0°-30°	635.4	12.8
0°-40°	1044.8	21.1
0°-60°	1913.1	38.6
0°-90°	2769.6	55.9
90°-120°	1139.9	23.0
90°-150°	1949.5	39.3
90°-180°	2188.0	44.1
0°-180°	4957.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	819	815	808	815	814	78
15°	781	783	783	793	793	220
25°	710	718	729	742	747	326
35°	612	632	654	679	689	382
45°	502	534	575	610	624	387
55°	385	428	489	530	547	344
65°	263	321	390	437	454	261
75°	146	212	288	336	354	154
85°	43	116	192	240	258	46
90°	12	88	173	218	234	9
95°	27	110	336	255	253	26
105°	68	135	479	815	729	73
115°	114	158	386	756	874	113
125°	155	185	343	598	695	138
135°	180	215	312	480	554	140
145°	204	235	298	377	418	129
155°	232	251	289	327	340	107
165°	253	261	277	294	298	71
175°	264	264	266	270	269	25
180°	264	264	264	264	264	



TEST NUMBER: P331389-940

CATALOG NUMBER: SA2XXDIP-C865D530U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	821.2	820.6	819.9	819.3	818.7	817.6	816.1	814.7	813.2	811.7	812.8
5°	818.8	818.1	817.3	816.5	815.6	814.5	812.9	811.3	809.8	808.2	809.8
7.5°	811.5	810.9	810.4	809.9	809.4	808.5	807.3	806.1	804.9	803.7	805.6
10°	805.8	805.3	804.8	804.2	803.7	803.1	802.3	801.5	800.7	799.9	802.0
12.5°	796.3	796.5	796.6	796.7	796.7	796.5	795.9	795.3	794.8	794.2	796.3
15°	781.0	781.5	782.0	782.6	783.0	783.3	783.3	783.3	783.3	783.3	785.7
17.5°	761.1	762.1	763.3	764.4	765.4	766.4	767.3	768.1	769.0	769.8	772.3
20°	747.8	749.1	750.5	751.8	753.0	754.3	755.3	756.3	757.4	758.5	761.3
22.5°	733.6	735.1	736.6	738.2	739.7	741.2	742.7	744.1	745.6	747.1	750.0
25°	710.0	711.8	713.6	715.5	717.3	719.4	721.8	724.2	726.5	728.9	732.0
27.5°	681.5	684.6	687.5	690.5	693.6	696.4	699.2	702.0	704.8	707.6	711.6
30°	662.6	666.0	669.5	672.9	676.3	679.8	683.1	686.5	690.0	693.4	697.6
32.5°	641.8	645.6	649.4	653.4	657.2	661.1	665.1	669.2	673.2	677.3	682.2
35°	611.7	616.2	620.7	625.2	629.6	634.4	639.4	644.4	649.3	654.3	660.1
37.5°	579.1	584.2	589.4	594.5	599.7	605.5	612.0	618.5	624.9	631.4	637.8
40°	557.3	563.1	568.9	574.7	580.4	586.9	594.0	601.1	608.2	615.3	622.1
42.5°	536.5	542.2	548.0	553.8	559.6	566.6	574.7	582.9	591.0	599.2	606.6
45°	501.7	508.8	515.9	523.0	530.1	538.2	547.4	556.7	565.9	575.1	583.2
47.5°	467.3	475.1	482.9	490.6	498.3	507.6	518.4	529.1	539.9	550.7	559.2
50°	443.7	451.8	460.0	468.1	476.4	486.3	498.1	510.0	521.8	533.7	542.6
52.5°	421.0	429.5	438.2	446.7	455.3	465.8	478.3	490.7	503.2	515.7	524.8
55°	384.6	394.0	403.5	413.0	422.4	434.0	447.6	461.4	475.0	488.7	498.1
57.5°	348.6	359.3	370.0	380.6	391.3	403.6	417.5	431.5	445.4	459.3	469.6
60°	323.1	334.3	345.6	357.0	368.3	381.4	396.4	411.3	426.3	441.4	451.4
62.5°	300.3	312.0	323.8	335.5	347.2	360.6	375.6	390.6	405.6	420.5	431.1
65°	262.7	275.5	288.5	301.3	314.2	328.4	343.9	359.4	375.0	390.5	401.3
67.5°	228.1	241.6	255.0	268.5	282.0	296.7	312.5	328.4	344.3	360.2	371.0
70°	203.5	217.2	230.9	244.5	258.2	273.2	289.5	305.8	322.1	338.4	349.7
72.5°	180.8	194.9	209.0	223.1	237.2	252.4	269.0	285.5	302.0	318.5	329.7
75°	145.5	160.2	175.0	189.8	204.5	220.3	237.0	253.9	270.7	287.5	298.8
77.5°	111.5	126.9	142.3	157.7	173.1	189.3	206.4	223.6	240.6	257.7	268.9
80°	88.7	104.8	120.8	136.9	152.9	169.4	186.5	203.7	220.7	237.8	248.9
82.5°	69.8	85.6	101.5	117.3	133.1	149.7	167.0	184.3	201.6	218.9	230.0
85°	42.6	58.9	75.2	91.5	107.8	124.4	141.2	158.0	174.9	191.7	202.8
87.5°	23.3	39.2	55.4	71.2	87.1	103.6	121.0	138.6	156.0	172.9	183.5
90°	12.3	29.2	46.4	62.7	78.9	96.5	115.8	136.3	156.1	173.4	183.5
92.5°	17.1	34.1	51.9	68.3	86.0	105.9	133.7	166.0	196.6	213.7	213.8
95°	27.3	41.6	59.1	76.1	96.6	122.8	161.9	222.0	296.8	335.5	320.5
97.5°	37.3	51.0	67.4	85.3	105.7	132.5	177.1	253.9	367.0	466.2	492.6
100°	47.4	58.7	73.0	90.9	110.8	137.2	178.9	255.7	380.2	520.0	603.1
102.5°	55.8	65.9	79.4	96.3	115.8	141.6	180.8	250.3	366.3	515.5	640.2
105°	67.9	77.6	88.8	104.1	122.9	147.8	185.3	244.2	341.9	478.6	623.0
107.5°	82.4	90.1	99.7	112.8	129.9	153.9	190.2	242.7	325.2	440.0	568.4
110°	91.2	98.4	106.8	118.7	134.6	158.5	193.7	243.2	318.1	420.4	534.1



TEST NUMBER: P331389-940

CATALOG NUMBER: SA2XXDIP-C865D530U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	100.1	106.6	114.5	125.1	139.7	163.3	197.1	243.9	312.5	404.9	508.0
115°	114.0	119.5	125.5	134.5	147.5	168.6	202.3	245.1	306.3	386.3	474.5
117.5°	127.3	131.3	136.2	143.5	155.2	175.8	207.0	247.0	301.1	371.8	449.4
120°	136.3	139.4	143.5	149.1	160.3	180.3	210.7	248.7	298.4	363.3	435.2
122.5°	144.8	146.9	150.3	155.8	166.3	186.1	214.6	249.9	296.1	356.0	422.4
125°	154.9	156.5	159.5	165.6	175.8	194.2	221.0	252.3	292.2	343.3	402.8
127.5°	163.9	165.7	169.7	176.1	185.6	203.5	228.1	255.4	289.6	333.1	384.5
130°	169.2	170.9	175.8	182.6	192.5	209.4	232.7	257.5	288.5	326.5	372.6
132.5°	174.1	176.2	181.5	188.7	199.0	215.3	236.5	259.7	287.3	320.5	361.8
135°	180.2	182.2	188.3	195.9	207.7	223.2	242.1	262.5	285.5	312.5	347.1
137.5°	187.1	189.5	195.6	203.7	215.2	228.9	246.2	263.9	283.6	305.6	334.7
140°	192.4	194.1	200.0	207.9	218.8	232.1	247.9	264.2	282.0	301.4	327.4
142.5°	197.7	199.0	204.5	212.3	222.8	235.2	250.1	265.6	281.8	299.5	321.9
145°	204.5	206.4	211.5	219.2	229.3	240.5	254.2	268.5	282.8	298.0	315.8
147.5°	212.9	214.5	219.4	226.4	234.9	244.8	257.7	270.3	283.1	296.1	310.6
150°	218.6	220.2	224.3	230.9	238.5	247.6	259.3	271.1	282.8	295.0	307.2
152.5°	224.4	225.1	229.2	235.0	242.2	250.5	261.0	271.4	282.0	292.9	304.3
155°	232.4	232.9	235.9	241.6	247.2	254.8	263.4	272.1	280.7	289.4	299.0
157.5°	239.1	239.6	242.1	246.9	251.5	257.8	265.1	272.1	278.4	285.7	294.0
160°	243.6	244.1	246.1	250.2	254.2	259.8	266.0	272.1	277.1	283.3	290.3
162.5°	248.1	247.7	249.8	253.1	256.7	261.1	266.4	271.6	275.9	281.2	287.1
165°	253.2	252.7	253.8	256.8	259.3	262.4	267.0	270.5	273.6	277.1	281.7
167.5°	257.5	256.9	257.8	259.8	261.6	263.5	266.9	269.8	271.3	273.6	276.4
170°	260.4	259.3	259.8	261.4	262.4	263.9	266.4	269.0	270.0	271.5	273.6
172.5°	262.0	261.4	261.1	262.6	263.2	264.3	266.1	267.8	268.4	269.1	270.7
175°	263.9	263.4	262.9	263.9	263.9	264.4	265.5	266.4	266.0	266.4	267.0
177.5°	264.8	264.0	263.6	264.4	264.4	264.4	264.8	265.6	264.8	264.4	264.8
180°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4



TEST NUMBER: P331389-940

CATALOG NUMBER: SA2XXDIP-C865D530U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	813.8	814.8	815.9	816.3	815.8	815.4	814.9	814.6
5°	811.3	812.9	814.5	815.1	814.8	814.6	814.3	814.0
7.5°	807.4	809.3	811.3	812.1	811.8	811.5	811.3	811.0
10°	804.1	806.2	808.3	809.2	809.0	808.7	808.4	808.2
12.5°	798.4	800.5	802.6	803.5	803.3	803.0	802.7	802.5
15°	788.0	790.4	792.8	793.8	793.5	793.3	793.0	792.8
17.5°	774.8	777.2	779.7	781.0	781.0	781.0	781.0	781.0
20°	764.3	767.1	770.0	771.5	771.5	771.5	771.5	771.5
22.5°	752.9	755.8	758.7	760.4	760.7	761.2	761.6	762.1
25°	735.2	738.3	741.5	743.5	744.2	745.0	745.8	746.6
27.5°	715.6	719.6	723.5	725.9	726.5	727.0	727.6	728.2
30°	701.8	706.0	710.2	712.7	713.5	714.3	715.1	715.9
32.5°	687.0	691.8	696.6	699.8	701.2	702.6	704.0	705.4
35°	665.9	671.7	677.5	681.3	683.1	685.0	686.8	688.7
37.5°	644.2	650.6	657.0	661.2	663.2	665.1	667.1	669.1
40°	628.9	635.8	642.7	647.2	649.6	651.9	654.3	656.7
42.5°	614.1	621.6	629.1	634.0	636.3	638.7	641.1	643.5
45°	591.4	599.5	607.7	613.1	615.7	618.3	621.0	623.6
47.5°	567.8	576.2	584.8	590.5	593.3	596.3	599.1	602.1
50°	551.5	560.4	569.4	575.3	578.2	581.1	584.0	586.9
52.5°	534.0	543.1	552.2	558.4	561.5	564.6	567.7	570.8
55°	507.7	517.1	526.6	533.0	536.4	539.8	543.2	546.6
57.5°	479.7	489.9	500.2	507.0	510.4	513.9	517.4	520.8
60°	461.4	471.4	481.3	488.1	491.9	495.5	499.2	502.9
62.5°	441.8	452.4	463.0	470.1	473.5	477.0	480.5	483.9
65°	412.1	422.8	433.6	440.7	444.1	447.5	450.9	454.3
67.5°	381.9	392.8	403.8	411.0	414.6	418.1	421.7	425.3
70°	361.1	372.3	383.6	390.8	394.0	397.2	400.4	403.5
72.5°	340.7	351.8	362.9	370.3	374.2	377.9	381.7	385.5
75°	310.1	321.5	332.8	340.1	343.6	347.0	350.4	353.8
77.5°	280.3	291.5	302.7	310.2	313.9	317.5	321.3	324.9
80°	259.9	271.0	282.0	289.4	293.0	296.8	300.4	304.1
82.5°	241.0	252.0	263.1	270.4	273.8	277.2	280.7	284.2
85°	213.7	224.8	235.9	243.3	246.9	250.6	254.2	258.0
87.5°	194.1	204.6	215.6	222.7	226.1	229.5	232.8	236.2
90°	193.5	203.0	214.5	221.9	225.1	228.2	231.3	234.5
92.5°	212.7	216.6	222.7	226.2	229.0	230.5	234.1	236.4
95°	289.3	268.2	256.9	252.3	248.8	247.9	249.6	253.2
97.5°	456.3	409.5	364.2	333.9	312.6	303.3	298.9	297.7
100°	602.1	548.8	488.8	433.5	394.2	375.3	363.5	357.2
102.5°	695.5	690.8	649.3	590.4	547.4	512.9	497.4	487.9
105°	738.1	804.7	820.6	809.8	781.1	752.5	733.5	729.3
107.5°	689.4	784.7	846.5	876.9	883.8	884.9	883.5	876.9
110°	649.9	749.3	822.8	870.2	894.9	907.5	915.0	917.3



TEST NUMBER: P331389-940

CATALOG NUMBER: SA2XXDIP-C865D530U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	613.1	708.9	786.9	840.3	873.7	892.7	904.3	909.9
115°	566.3	652.6	727.0	784.8	823.8	850.1	866.2	873.7
117.5°	528.5	605.1	673.2	727.6	767.1	794.5	811.1	817.7
120°	508.2	578.6	639.9	691.3	729.8	756.5	774.2	782.2
122.5°	491.1	556.0	614.2	660.8	695.3	721.2	736.8	743.5
125°	465.3	524.8	576.7	619.6	651.4	673.1	688.1	694.6
127.5°	439.9	493.8	542.5	582.1	610.2	630.6	643.9	649.4
130°	423.7	473.7	520.1	557.9	585.0	604.3	616.6	622.8
132.5°	407.8	454.3	497.3	533.0	559.5	579.0	590.5	596.2
135°	385.7	424.7	463.8	496.1	520.0	539.0	550.2	554.4
137.5°	366.5	399.4	430.9	459.1	480.7	497.0	506.8	511.7
140°	354.5	383.2	410.7	436.0	453.9	468.7	477.9	482.5
142.5°	345.3	369.3	392.9	413.9	430.8	444.2	452.4	454.3
145°	333.2	351.5	368.9	385.1	398.6	408.6	415.0	417.8
147.5°	324.2	337.7	350.2	361.4	372.1	379.7	383.7	385.3
150°	319.3	330.6	341.3	350.4	358.0	364.1	367.1	367.7
152.5°	314.9	325.3	334.3	342.2	348.2	353.6	355.8	355.9
155°	308.7	316.8	324.4	330.0	335.6	339.2	341.3	340.2
157.5°	301.5	308.3	314.7	319.1	323.0	326.0	326.9	326.9
160°	296.9	302.6	308.2	311.7	315.3	317.8	318.3	318.3
162.5°	292.5	297.3	302.1	304.8	308.4	310.1	310.6	310.2
165°	285.8	289.4	292.9	295.0	296.9	299.0	299.0	298.5
167.5°	279.4	282.1	284.5	286.4	287.3	288.5	288.4	287.8
170°	276.2	277.7	279.7	280.7	281.2	282.8	282.2	281.2
172.5°	272.5	273.6	275.2	275.8	276.3	277.1	276.5	275.9
175°	268.5	269.0	269.6	270.0	270.0	270.5	270.0	269.0
177.5°	265.6	265.6	266.1	266.1	266.1	266.1	265.6	264.8
180°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4

(END OF REPORT)