

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: P331398-840

Luminaire Tested: **SA2XXDIP-C865D725U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331398-840
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-C865D725U840-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

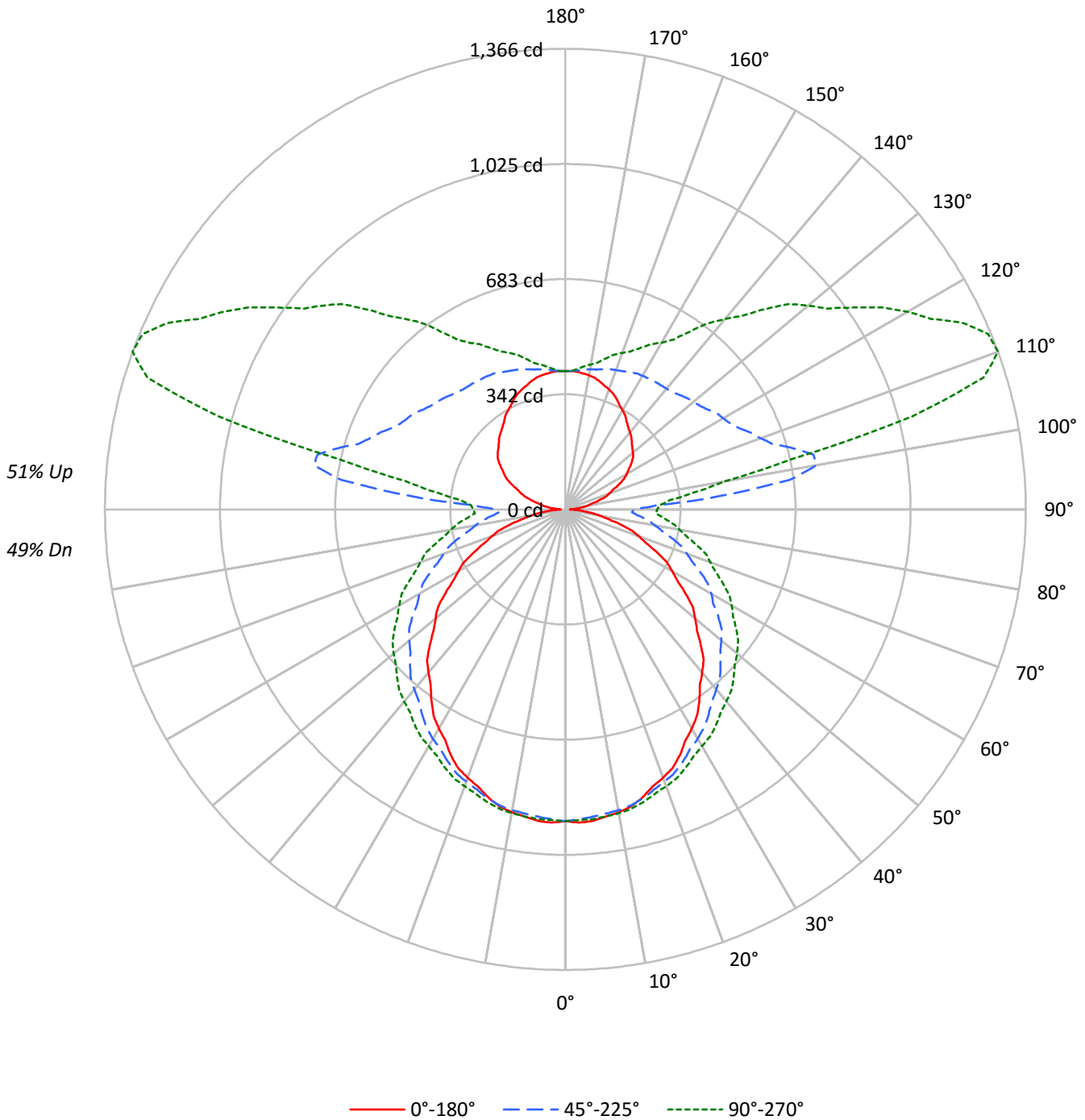
Lumens per Lamp: N/A
Luminaire Lumens: 6387.7 lumens
Efficiency: N/A
Efficacy: 117.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 54.4
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: P331398-840
CATALOG NUMBER: SA2XXDIP-C865D725U840-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331398-840

CATALOG NUMBER: SA2XXDIP-C865D725U840-4F0-1E-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	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55	49
1	96	91	87	83	88	84	80	77	70	68	65	58	56	54	47	45	44	38
2	87	79	72	66	80	73	67	62	61	56	53	50	47	44	40	38	36	31
3	79	69	61	55	72	63	56	51	53	48	44	44	40	37	35	32	30	26
4	72	60	52	46	66	56	48	43	47	41	37	39	34	31	31	28	25	21
5	66	54	45	39	60	50	42	36	42	36	31	35	30	26	28	24	22	18
6	61	48	40	33	55	44	37	31	38	32	27	31	27	23	25	22	19	16
7	56	43	35	29	51	40	33	27	34	28	24	28	24	20	23	19	17	14
8	52	39	31	26	48	36	29	24	31	25	21	26	21	18	21	17	15	12
9	48	36	28	23	44	33	26	21	28	23	19	24	19	16	19	16	13	11
10	45	33	25	20	41	30	24	19	26	21	17	22	17	14	18	15	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14928	14928	14928
5°	15002	14370	14315
10°	14907	13945	13789
15°	14701	13496	13236
20°	14442	13015	12701
25°	14187	12551	12216
30°	13824	12074	11729
35°	13459	11611	11386
40°	13075	11219	11044
45°	12709	10869	10750
50°	12316	10551	10462
55°	11908	10209	10166
60°	11404	9856	9857
65°	10880	9439	9485
70°	10292	8992	9089
75°	9539	8554	8722
80°	8357	8107	8349
85°	7227	7720	8061



TEST NUMBER: P331398-840

CATALOG NUMBER: SA2XXDIP-C865D725U840-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	1.4
10°-20°	251.2	3.9
20°-30°	380.7	6.0
30°-40°	463.7	7.3
40°-50°	498.9	7.8
50°-60°	484.5	7.6
60°-70°	423.0	6.6
70°-80°	325.7	5.1
80°-90°	222.3	3.5
90°-100°	314.7	4.9
100°-110°	666.9	10.4
110°-120°	664.3	10.4
120°-130°	527.6	8.3
130°-140°	408.2	6.4
140°-150°	298.6	4.7
150°-160°	207.7	3.3
160°-170°	122.3	1.9
170°-180°	39.8	0.6
0°-30°	719.6	11.3
0°-40°	1183.3	18.5
0°-60°	2166.6	33.9
0°-90°	3137.6	49.1
90°-120°	1646.0	25.8
90°-150°	2880.3	45.1
90°-180°	3250.0	50.9
0°-180°	6387.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	927	923	915	923	922	88
15°	884	887	887	898	898	249
25°	804	814	826	841	846	369
35°	693	716	741	769	780	433
45°	568	605	651	691	706	438
55°	436	485	553	600	619	389
65°	298	364	442	495	514	295
75°	165	240	326	381	401	174
85°	48	132	217	271	292	52
90°	14	102	204	254	273	11
95°	38	143	464	320	311	38
105°	103	192	700	1206	1066	110
115°	175	237	570	1129	1306	173
125°	240	285	516	899	1044	213
135°	279	334	480	730	841	216
145°	317	365	463	582	643	199
155°	361	390	449	508	528	166
165°	393	405	430	456	463	111
175°	410	410	414	419	418	39
180°	410	410	410	410	410	



TEST NUMBER: P331398-840

CATALOG NUMBER: SA2XXDIP-C865D725U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	930.0	929.3	928.6	927.9	927.2	925.9	924.2	922.6	920.9	919.3	920.5
5°	927.3	926.5	925.5	924.6	923.7	922.4	920.6	918.8	917.1	915.2	917.1
7.5°	919.0	918.4	917.8	917.3	916.7	915.6	914.2	912.9	911.5	910.2	912.3
10°	912.6	912.0	911.4	910.8	910.2	909.5	908.6	907.7	906.8	905.8	908.3
12.5°	901.8	902.0	902.1	902.2	902.3	902.0	901.4	900.7	900.1	899.4	901.8
15°	884.4	885.0	885.7	886.3	886.8	887.1	887.1	887.1	887.1	887.1	889.8
17.5°	861.9	863.1	864.4	865.7	866.9	868.0	869.0	869.9	870.9	871.8	874.6
20°	846.9	848.4	849.9	851.4	852.8	854.2	855.4	856.6	857.8	859.0	862.2
22.5°	830.8	832.5	834.2	836.0	837.7	839.4	841.1	842.7	844.4	846.1	849.4
25°	804.1	806.1	808.2	810.3	812.3	814.8	817.4	820.1	822.7	825.5	829.0
27.5°	771.8	775.3	778.6	782.0	785.5	788.7	791.8	795.1	798.2	801.3	805.9
30°	750.4	754.3	758.2	762.0	765.9	769.8	773.7	777.5	781.4	785.3	790.0
32.5°	726.8	731.1	735.5	739.9	744.3	748.7	753.3	757.9	762.4	767.0	772.5
35°	692.8	697.8	703.0	708.0	713.1	718.4	724.1	729.7	735.4	741.0	747.6
37.5°	655.8	661.7	667.5	673.3	679.1	685.7	693.1	700.4	707.7	715.1	722.4
40°	631.2	637.7	644.3	650.9	657.3	664.7	672.7	680.8	688.8	696.8	704.6
42.5°	607.5	614.1	620.7	627.2	633.8	641.7	650.9	660.1	669.3	678.6	687.0
45°	568.2	576.2	584.2	592.3	600.4	609.6	620.0	630.5	640.9	651.3	660.5
47.5°	529.3	538.1	546.8	555.6	564.3	574.8	587.0	599.3	611.5	623.7	633.3
50°	502.5	511.7	521.0	530.2	539.5	550.8	564.1	577.5	591.0	604.4	614.5
52.5°	476.8	486.5	496.2	505.9	515.6	527.6	541.7	555.7	569.9	584.0	594.3
55°	435.6	446.3	457.0	467.7	478.4	491.5	507.0	522.5	538.0	553.4	564.1
57.5°	394.8	406.9	419.0	431.0	443.1	457.1	472.8	488.7	504.4	520.2	531.8
60°	365.9	378.6	391.4	404.2	417.1	431.9	448.9	465.9	482.8	499.9	511.2
62.5°	340.1	353.4	366.7	379.9	393.2	408.4	425.4	442.3	459.3	476.3	488.3
65°	297.5	312.0	326.7	341.2	355.9	371.9	389.5	407.1	424.6	442.2	454.4
67.5°	258.3	273.6	288.8	304.1	319.3	336.0	354.0	371.9	389.9	407.9	420.2
70°	230.5	246.0	261.5	276.9	292.5	309.4	327.9	346.3	364.8	383.2	396.1
72.5°	204.8	220.8	236.7	252.7	268.6	285.9	304.7	323.4	342.0	360.7	373.3
75°	164.8	181.5	198.1	214.9	231.6	249.4	268.4	287.5	306.6	325.6	338.4
77.5°	126.2	143.7	161.2	178.5	196.0	214.4	233.8	253.2	272.5	291.9	304.6
80°	100.5	118.7	136.8	155.0	173.2	191.9	211.3	230.7	249.9	269.3	281.9
82.5°	79.1	96.9	114.9	132.8	150.8	169.6	189.1	208.7	228.3	247.9	260.4
85°	48.3	66.8	85.1	103.6	122.1	140.9	159.9	178.9	198.0	217.1	229.6
87.5°	26.5	44.6	63.0	81.1	99.2	118.1	137.8	158.0	178.0	197.2	209.2
90°	14.2	33.8	54.2	73.1	92.0	112.5	135.5	160.1	183.9	203.7	214.8
92.5°	21.9	42.3	64.0	83.6	105.0	129.7	165.9	209.3	250.1	269.8	265.6
95°	38.4	55.5	77.4	98.5	125.1	160.0	214.2	300.7	410.2	463.5	436.2
97.5°	54.3	71.1	91.9	115.1	142.1	178.3	241.2	354.0	523.3	670.9	707.8
100°	70.2	83.5	101.7	125.3	152.1	188.0	246.6	359.6	546.7	757.6	882.3
102.5°	83.6	95.4	112.6	135.3	161.8	197.0	251.9	353.7	527.8	753.3	942.8
105°	103.0	114.8	129.0	149.5	175.4	209.6	262.2	347.9	493.7	700.2	920.6
107.5°	125.4	134.9	147.1	165.0	189.1	222.3	273.1	349.1	471.7	644.4	839.9
110°	139.6	148.7	159.4	175.6	198.1	231.3	280.6	352.0	462.9	616.4	789.4



TEST NUMBER: P331398-840

CATALOG NUMBER: SA2XXDIP-C865D725U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	153.5	161.6	172.0	186.6	207.5	240.5	287.9	355.5	456.8	595.1	751.5
115°	175.1	182.3	190.4	203.1	222.2	251.8	299.1	360.7	450.7	569.9	703.5
117.5°	196.1	201.5	208.3	218.8	236.2	265.5	309.3	366.9	446.4	551.4	668.7
120°	210.1	214.4	220.4	228.6	245.6	274.3	317.0	371.5	444.2	540.6	649.1
122.5°	223.3	226.3	231.6	239.7	256.0	284.6	324.7	375.4	442.9	531.6	631.8
125°	239.5	241.9	246.6	256.1	271.9	298.7	336.7	381.7	440.2	516.0	605.4
127.5°	253.4	256.3	262.6	272.7	287.6	314.0	349.3	388.9	439.2	503.7	580.9
130°	261.7	264.5	272.1	282.9	298.3	323.4	357.3	393.5	439.3	496.0	564.7
132.5°	269.2	272.7	280.9	292.3	308.4	332.8	364.0	398.2	439.3	489.0	550.5
135°	279.2	282.4	291.9	303.7	321.8	345.5	373.7	404.2	438.8	479.7	531.0
137.5°	289.9	293.7	303.1	315.7	333.6	354.8	381.0	408.1	438.1	471.8	515.0
140°	298.1	301.0	310.2	322.6	339.6	360.3	384.6	409.6	437.1	466.9	505.5
142.5°	306.4	308.6	317.1	329.5	345.9	365.1	388.3	412.2	437.3	464.7	498.1
145°	317.3	320.5	328.4	340.2	356.0	373.3	394.8	416.8	438.9	462.6	489.7
147.5°	330.6	333.0	340.5	351.4	364.6	380.0	400.1	419.5	439.6	459.8	482.1
150°	339.4	341.8	348.1	358.4	370.2	384.5	402.6	420.7	438.9	457.9	476.8
152.5°	348.3	349.4	355.7	364.7	375.9	388.9	405.2	421.4	437.7	454.7	472.4
155°	360.7	361.5	366.3	375.0	383.6	395.5	408.9	422.3	435.8	449.2	464.1
157.5°	371.2	371.9	375.8	383.3	390.3	400.2	411.6	422.3	432.1	443.5	456.5
160°	378.1	378.9	382.0	388.4	394.8	403.3	412.8	422.3	430.2	439.7	450.8
162.5°	385.1	384.6	387.8	392.8	398.5	405.3	413.5	421.7	428.4	436.6	445.7
165°	393.1	392.3	393.9	398.7	402.6	407.4	414.4	420.0	424.7	430.2	437.4
167.5°	399.8	398.8	400.2	403.2	406.1	409.1	414.2	418.9	421.1	424.7	429.1
170°	404.1	402.6	403.3	405.8	407.4	409.7	413.6	417.6	419.2	421.5	424.7
172.5°	406.7	405.8	405.3	407.7	408.6	410.3	413.0	415.7	416.7	417.8	420.3
175°	409.7	408.9	408.1	409.7	409.7	410.5	412.0	413.6	412.8	413.6	414.4
177.5°	411.1	409.9	409.2	410.5	410.5	410.5	411.1	412.4	411.1	410.5	411.1
180°	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5



TEST NUMBER: P331398-840

CATALOG NUMBER: SA2XXDIP-C865D725U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	921.6	922.8	924.0	924.4	923.9	923.4	922.9	922.5
5°	918.8	920.6	922.4	923.1	922.8	922.5	922.2	921.9
7.5°	914.4	916.6	918.8	919.7	919.4	919.1	918.8	918.5
10°	910.6	913.0	915.4	916.5	916.1	915.8	915.5	915.2
12.5°	904.2	906.6	909.0	910.0	909.7	909.4	909.1	908.8
15°	892.4	895.1	897.9	899.0	898.7	898.4	898.1	897.9
17.5°	877.5	880.2	883.0	884.4	884.4	884.4	884.4	884.4
20°	865.6	868.8	872.0	873.7	873.7	873.7	873.7	873.7
22.5°	852.6	856.0	859.2	861.1	861.5	862.0	862.5	863.0
25°	832.6	836.2	839.8	842.0	842.8	843.7	844.7	845.6
27.5°	810.4	815.0	819.4	822.0	822.7	823.3	824.0	824.7
30°	794.8	799.5	804.4	807.2	808.0	808.9	809.8	810.7
32.5°	778.0	783.5	788.9	792.5	794.1	795.7	797.3	798.9
35°	754.2	760.7	767.3	771.5	773.7	775.8	777.8	779.9
37.5°	729.5	736.8	744.1	748.8	751.0	753.3	755.5	757.7
40°	712.3	720.0	727.8	733.0	735.7	738.3	741.0	743.8
42.5°	695.5	704.0	712.5	718.0	720.6	723.4	726.0	728.7
45°	669.7	678.9	688.2	694.3	697.3	700.2	703.3	706.2
47.5°	643.0	652.6	662.3	668.7	672.0	675.3	678.5	681.9
50°	624.6	634.7	644.9	651.6	654.8	658.1	661.4	664.7
52.5°	604.7	615.1	625.4	632.4	635.9	639.4	642.9	646.4
55°	574.9	585.6	596.3	603.6	607.4	611.4	615.2	619.0
57.5°	543.3	554.8	566.4	574.2	578.0	582.0	585.9	589.9
60°	522.5	533.8	545.1	552.8	557.0	561.2	565.3	569.6
62.5°	500.3	512.3	524.3	532.4	536.2	540.2	544.1	548.1
65°	466.7	478.9	491.1	499.1	502.9	506.9	510.7	514.5
67.5°	432.5	444.8	457.3	465.4	469.5	473.5	477.6	481.6
70°	408.9	421.6	434.4	442.6	446.3	449.8	453.4	457.0
72.5°	385.9	398.4	411.0	419.4	423.7	428.0	432.3	436.6
75°	351.2	364.1	376.9	385.2	389.1	392.9	396.8	400.7
77.5°	317.4	330.1	342.8	351.3	355.5	359.6	363.9	368.0
80°	294.4	306.9	319.4	327.7	331.8	336.1	340.2	344.4
82.5°	273.0	285.4	297.9	306.2	310.1	314.0	317.9	321.8
85°	242.1	254.6	267.1	275.5	279.6	283.8	287.9	292.2
87.5°	221.3	233.1	245.5	253.7	257.5	261.4	265.1	268.9
90°	226.0	236.3	249.8	258.3	261.9	265.5	269.0	272.7
92.5°	259.4	261.4	266.3	269.0	272.1	273.1	277.3	279.5
95°	383.5	346.7	324.9	315.0	308.3	305.5	306.7	311.1
97.5°	647.2	570.5	496.1	446.4	412.1	396.3	388.2	385.2
100°	876.8	789.9	692.8	604.4	542.2	511.5	491.9	480.9
102.5°	1024.8	1013.5	945.1	851.0	783.0	728.4	703.1	687.1
105°	1095.2	1194.9	1215.6	1196.3	1150.6	1105.0	1074.3	1066.5
107.5°	1024.0	1168.4	1260.5	1305.4	1314.7	1315.3	1311.9	1300.5
110°	965.5	1116.3	1226.9	1298.1	1335.2	1353.5	1363.9	1366.4



TEST NUMBER: P331398-840

CATALOG NUMBER: SA2XXDIP-C865D725U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	911.3	1056.4	1174.0	1254.6	1305.0	1333.4	1350.1	1357.7
115°	842.7	973.2	1085.5	1173.0	1232.2	1271.8	1295.7	1306.1
117.5°	788.2	903.7	1006.3	1088.5	1148.7	1190.1	1214.8	1223.9
120°	759.3	865.6	957.6	1035.2	1093.8	1134.2	1160.3	1171.4
122.5°	735.4	833.1	920.5	990.9	1043.2	1082.5	1105.7	1115.1
125°	699.5	788.8	866.4	930.9	979.4	1012.1	1034.5	1043.5
127.5°	664.1	745.0	817.9	877.6	920.1	950.9	970.5	978.2
130°	641.4	716.4	785.9	842.7	883.8	913.0	931.2	939.9
132.5°	619.2	689.0	753.3	806.9	847.3	876.5	893.4	901.5
135°	588.5	646.9	705.2	753.8	790.1	818.5	835.1	840.6
137.5°	562.3	611.4	658.2	700.4	733.5	757.9	772.3	779.1
140°	545.8	588.5	629.5	667.6	694.7	717.0	730.5	737.1
142.5°	533.0	569.0	604.1	635.8	661.4	681.6	693.7	696.1
145°	515.9	543.7	570.0	594.5	615.0	629.9	639.2	643.1
147.5°	503.2	523.9	543.3	560.5	576.8	588.2	594.4	596.5
150°	495.7	513.1	529.7	543.9	555.7	565.2	570.0	570.8
152.5°	488.8	504.9	519.0	531.3	540.6	548.8	552.3	552.4
155°	479.2	491.8	503.6	512.3	521.0	526.5	529.7	528.2
157.5°	468.0	478.6	488.5	495.2	501.4	506.0	507.5	507.5
160°	461.0	469.7	478.4	483.9	489.5	493.4	494.1	494.1
162.5°	454.0	461.5	468.9	473.2	478.7	481.4	482.2	481.5
165°	443.6	449.2	454.7	457.9	461.0	464.1	464.1	463.4
167.5°	433.7	438.0	441.7	444.6	446.1	447.8	447.6	446.7
170°	428.7	431.0	434.1	435.8	436.6	438.9	438.1	436.6
172.5°	422.9	424.7	427.3	428.2	429.0	430.1	429.3	428.4
175°	416.8	417.6	418.4	419.2	419.2	420.0	419.2	417.6
177.5°	412.4	412.4	413.0	413.0	413.0	413.0	412.4	411.1
180°	410.5	410.5	410.5	410.5	410.5	410.5	410.5	410.5

(END OF REPORT)