

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: P331398-830

Luminaire Tested: **SA2XXDIP-C865D725U830-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331398-830
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-C865D725U830-4F0-1E-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: 5961.9 lumens
Efficiency: N/A
Efficacy: 109.6 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

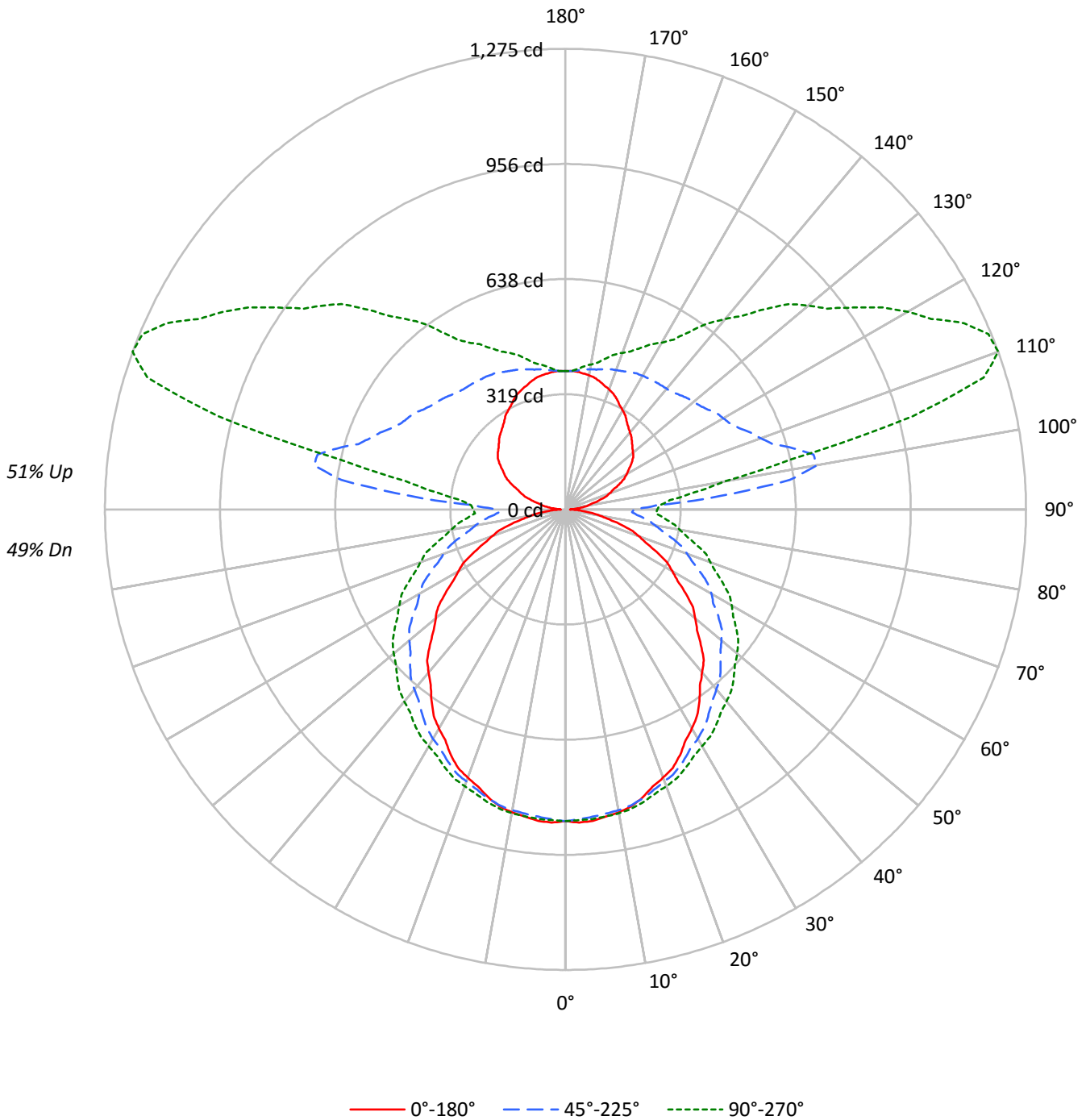
Input Watts (W): 54.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331398-830

CATALOG NUMBER: SA2XXDIP-C865D725U830-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331398-830

CATALOG NUMBER: SA2XXDIP-C865D725U830-4F0-1E-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°	13934	13934	13934
5°	14000	13412	13361
10°	13914	13017	12870
15°	13722	12596	12353
20°	13478	12147	11855
25°	13241	11713	11401
30°	12903	11268	10947
35°	12562	10837	10627
40°	12203	10472	10307
45°	11862	10143	10033
50°	11495	9847	9765
55°	11112	9528	9489
60°	10644	9199	9199
65°	10156	8809	8853
70°	9605	8393	8482
75°	8902	7984	8141
80°	7800	7568	7791
85°	6748	7205	7523



TEST NUMBER: P331398-830

CATALOG NUMBER: SA2XXDIP-C865D725U830-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.8	1.4
10°-20°	234.5	3.9
20°-30°	355.3	6.0
30°-40°	432.8	7.3
40°-50°	465.6	7.8
50°-60°	452.2	7.6
60°-70°	394.8	6.6
70°-80°	304.0	5.1
80°-90°	207.4	3.5
90°-100°	293.7	4.9
100°-110°	622.5	10.4
110°-120°	620.0	10.4
120°-130°	492.5	8.3
130°-140°	380.9	6.4
140°-150°	278.6	4.7
150°-160°	193.9	3.3
160°-170°	114.1	1.9
170°-180°	37.1	0.6
0°-30°	671.6	11.3
0°-40°	1104.4	18.5
0°-60°	2022.2	33.9
0°-90°	2928.4	49.1
90°-120°	1536.2	25.8
90°-150°	2688.3	45.1
90°-180°	3033.0	50.9
0°-180°	5961.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	865	862	854	861	860	82
15°	826	828	828	839	838	232
25°	750	759	770	785	789	345
35°	647	668	692	718	728	404
45°	530	565	608	645	659	409
55°	406	453	516	560	578	363
65°	278	340	413	462	480	276
75°	154	224	304	356	374	163
85°	45	123	203	253	273	48
90°	13	95	190	237	254	10
95°	36	133	433	299	290	35
105°	96	180	654	1126	995	103
115°	163	221	532	1054	1219	162
125°	224	266	482	839	974	199
135°	261	311	448	681	785	202
145°	296	340	432	543	600	186
155°	337	364	419	474	493	155
165°	367	378	402	426	432	103
175°	382	383	386	391	390	36
180°	383	383	383	383	383	



TEST NUMBER: P331398-830

CATALOG NUMBER: SA2XXDIP-C865D725U830-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	868.0	867.3	866.7	866.0	865.3	864.2	862.6	861.1	859.5	858.0	859.1
5°	865.4	864.7	863.8	863.0	862.1	860.9	859.2	857.5	855.9	854.2	855.9
7.5°	857.7	857.1	856.6	856.1	855.5	854.6	853.3	852.1	850.7	849.5	851.5
10°	851.8	851.2	850.6	850.1	849.5	848.9	848.0	847.2	846.3	845.5	847.7
12.5°	841.7	841.9	842.0	842.1	842.2	841.9	841.3	840.7	840.1	839.4	841.7
15°	825.5	826.0	826.6	827.2	827.6	827.9	827.9	827.9	827.9	827.9	830.5
17.5°	804.5	805.6	806.8	807.9	809.1	810.1	811.1	811.9	812.8	813.7	816.3
20°	790.4	791.8	793.2	794.7	796.0	797.3	798.3	799.5	800.6	801.7	804.7
22.5°	775.4	777.0	778.6	780.2	781.8	783.4	785.0	786.6	788.2	789.7	792.8
25°	750.5	752.3	754.3	756.3	758.2	760.4	762.9	765.4	767.9	770.4	773.7
27.5°	720.4	723.6	726.7	729.9	733.1	736.1	739.0	742.1	745.0	747.9	752.1
30°	700.4	704.0	707.7	711.2	714.8	718.5	722.1	725.7	729.3	732.9	737.4
32.5°	678.3	682.4	686.5	690.6	694.7	698.8	703.0	707.4	711.6	715.9	721.0
35°	646.6	651.3	656.1	660.8	665.5	670.5	675.8	681.1	686.4	691.6	697.8
37.5°	612.1	617.6	623.0	628.4	633.9	640.0	646.9	653.7	660.5	667.4	674.2
40°	589.1	595.2	601.3	607.5	613.5	620.4	627.8	635.4	642.9	650.4	657.6
42.5°	567.0	573.2	579.3	585.4	591.5	598.9	607.5	616.1	624.7	633.4	641.2
45°	530.3	537.8	545.3	552.8	560.3	568.9	578.6	588.4	598.1	607.8	616.4
47.5°	494.0	502.2	510.4	518.6	526.7	536.5	547.9	559.3	570.7	582.1	591.1
50°	469.0	477.6	486.3	494.8	503.5	514.1	526.5	539.0	551.6	564.1	573.5
52.5°	445.0	454.0	463.2	472.2	481.3	492.4	505.6	518.7	531.9	545.1	554.7
55°	406.5	416.5	426.5	436.5	446.5	458.7	473.2	487.7	502.1	516.5	526.5
57.5°	368.4	379.8	391.1	402.3	413.6	426.6	441.3	456.1	470.8	485.5	496.3
60°	341.5	353.4	365.3	377.3	389.3	403.1	419.0	434.8	450.6	466.6	477.1
62.5°	317.4	329.8	342.2	354.6	367.0	381.2	397.0	412.8	428.7	444.5	455.7
65°	277.7	291.2	304.9	318.5	332.2	347.1	363.5	379.9	396.3	412.7	424.1
67.5°	241.1	255.3	269.6	283.8	298.0	313.6	330.4	347.1	363.9	380.7	392.2
70°	215.1	229.6	244.0	258.4	273.0	288.8	306.0	323.2	340.4	357.7	369.7
72.5°	191.1	206.0	220.9	235.8	250.7	266.8	284.4	301.8	319.2	336.7	348.5
75°	153.8	169.4	184.9	200.6	216.1	232.8	250.5	268.3	286.2	303.9	315.8
77.5°	117.8	134.1	150.4	166.6	182.9	200.1	218.2	236.3	254.3	272.4	284.3
80°	93.8	110.7	127.7	144.7	161.6	179.1	197.2	215.3	233.3	251.4	263.1
82.5°	73.8	90.5	107.3	123.9	140.7	158.3	176.5	194.8	213.1	231.4	243.1
85°	45.1	62.3	79.5	96.7	114.0	131.5	149.2	167.0	184.8	202.6	214.3
87.5°	24.7	41.7	58.8	75.7	92.6	110.2	128.7	147.5	166.2	184.1	195.3
90°	13.3	31.6	50.6	68.2	85.9	105.0	126.5	149.4	171.6	190.1	200.5
92.5°	20.5	39.5	59.8	78.0	98.0	121.0	154.9	195.4	233.5	251.8	247.9
95°	35.8	51.8	72.2	91.9	116.8	149.3	199.9	280.7	382.9	432.6	407.1
97.5°	50.7	66.4	85.8	107.4	132.6	166.5	225.1	330.4	488.4	626.1	660.6
100°	65.5	77.9	94.9	117.0	141.9	175.5	230.2	335.6	510.3	707.1	823.5
102.5°	78.0	89.1	105.1	126.3	151.0	183.9	235.1	330.1	492.6	703.0	880.0
105°	96.1	107.2	120.4	139.5	163.7	195.7	244.7	324.7	460.8	653.6	859.2
107.5°	117.1	125.9	137.3	154.0	176.5	207.5	254.9	325.8	440.3	601.4	783.9
110°	130.3	138.7	148.7	163.9	184.9	215.8	261.9	328.6	432.1	575.3	736.8



TEST NUMBER: P331398-830

CATALOG NUMBER: SA2XXDIP-C865D725U830-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	143.3	150.8	160.5	174.2	193.7	224.5	268.7	331.8	426.3	555.4	701.4
115°	163.4	170.1	177.7	189.5	207.4	235.0	279.2	336.7	420.7	531.9	656.6
117.5°	183.0	188.0	194.4	204.2	220.5	247.8	288.7	342.4	416.6	514.6	624.2
120°	196.0	200.1	205.7	213.4	229.2	256.0	295.9	346.8	414.6	504.5	605.9
122.5°	208.4	211.2	216.1	223.8	238.9	265.6	303.0	350.3	413.4	496.2	589.7
125°	223.6	225.7	230.2	239.0	253.7	278.8	314.2	356.3	410.9	481.6	565.1
127.5°	236.5	239.2	245.1	254.5	268.4	293.0	326.0	363.0	409.9	470.1	542.2
130°	244.2	246.9	253.9	264.0	278.4	301.8	333.5	367.3	410.0	463.0	527.1
132.5°	251.3	254.5	262.2	272.8	287.9	310.6	339.7	371.6	410.0	456.4	513.8
135°	260.6	263.5	272.4	283.4	300.4	322.4	348.7	377.3	409.5	447.7	495.6
137.5°	270.6	274.1	282.9	294.6	311.3	331.1	355.6	380.9	408.9	440.4	480.7
140°	278.2	281.0	289.5	301.0	317.0	336.3	358.9	382.3	407.9	435.7	471.8
142.5°	286.0	288.0	296.0	307.6	322.8	340.7	362.4	384.7	408.1	433.8	464.9
145°	296.1	299.2	306.5	317.5	332.2	348.5	368.4	389.0	409.6	431.8	457.0
147.5°	308.6	310.8	317.8	328.0	340.3	354.7	373.4	391.5	410.3	429.1	450.0
150°	316.8	319.1	324.9	334.5	345.5	358.8	375.8	392.7	409.6	427.3	445.0
152.5°	325.1	326.1	332.0	340.4	350.8	363.0	378.1	393.3	408.5	424.4	440.9
155°	336.7	337.4	341.9	350.0	358.1	369.1	381.6	394.2	406.7	419.2	433.2
157.5°	346.5	347.1	350.7	357.8	364.3	373.5	384.2	394.2	403.3	414.0	426.0
160°	352.9	353.6	356.6	362.5	368.4	376.5	385.3	394.2	401.5	410.4	420.8
162.5°	359.4	358.9	361.9	366.6	371.9	378.2	386.0	393.6	399.8	407.5	415.9
165°	366.9	366.2	367.7	372.1	375.8	380.2	386.8	392.0	396.4	401.5	408.2
167.5°	373.2	372.2	373.5	376.4	379.0	381.8	386.6	391.0	393.0	396.4	400.5
170°	377.2	375.8	376.5	378.7	380.2	382.4	386.1	389.7	391.2	393.4	396.4
172.5°	379.6	378.7	378.2	380.5	381.4	383.0	385.5	388.0	388.9	389.9	392.3
175°	382.4	381.6	380.9	382.4	382.4	383.1	384.6	386.1	385.3	386.1	386.8
177.5°	383.7	382.6	381.9	383.1	383.1	383.1	383.7	384.9	383.7	383.1	383.7
180°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1



TEST NUMBER: P331398-830

CATALOG NUMBER: SA2XXDIP-C865D725U830-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	860.2	861.3	862.4	862.8	862.3	861.9	861.4	861.0
5°	857.5	859.2	860.9	861.6	861.3	861.0	860.7	860.4
7.5°	853.5	855.5	857.5	858.4	858.1	857.8	857.5	857.2
10°	849.9	852.2	854.4	855.4	855.1	854.8	854.5	854.2
12.5°	844.0	846.1	848.4	849.3	849.0	848.8	848.5	848.2
15°	832.9	835.5	838.0	839.1	838.8	838.5	838.2	838.0
17.5°	819.0	821.5	824.2	825.5	825.5	825.5	825.5	825.5
20°	807.9	810.9	813.9	815.5	815.5	815.5	815.5	815.5
22.5°	795.8	798.9	801.9	803.7	804.1	804.6	805.0	805.5
25°	777.1	780.4	783.8	785.9	786.6	787.5	788.3	789.2
27.5°	756.4	760.6	764.8	767.2	767.9	768.5	769.1	769.7
30°	741.8	746.2	750.7	753.4	754.1	755.0	755.8	756.7
32.5°	726.1	731.2	736.3	739.7	741.1	742.6	744.1	745.6
35°	703.9	710.0	716.1	720.1	722.1	724.1	725.9	727.9
37.5°	680.9	687.7	694.5	698.9	701.0	703.0	705.1	707.2
40°	664.8	672.0	679.3	684.1	686.6	689.1	691.6	694.2
42.5°	649.1	657.0	665.0	670.1	672.6	675.1	677.6	680.1
45°	625.1	633.7	642.3	648.0	650.8	653.6	656.4	659.1
47.5°	600.1	609.1	618.1	624.2	627.2	630.3	633.3	636.4
50°	583.0	592.4	601.9	608.1	611.1	614.3	617.3	620.4
52.5°	564.4	574.1	583.7	590.2	593.5	596.8	600.0	603.3
55°	536.6	546.6	556.6	563.4	566.9	570.6	574.2	577.8
57.5°	507.1	517.8	528.7	535.9	539.5	543.2	546.9	550.5
60°	487.7	498.2	508.8	515.9	519.9	523.8	527.6	531.6
62.5°	466.9	478.2	489.4	496.9	500.5	504.2	507.8	511.5
65°	435.5	447.0	458.4	465.8	469.4	473.1	476.6	480.2
67.5°	403.7	415.2	426.8	434.4	438.2	442.0	445.7	449.5
70°	381.6	393.5	405.5	413.1	416.5	419.8	423.2	426.5
72.5°	360.1	371.8	383.6	391.4	395.5	399.4	403.5	407.5
75°	327.8	339.8	351.8	359.5	363.2	366.7	370.3	374.0
77.5°	296.2	308.1	320.0	327.9	331.8	335.6	339.6	343.5
80°	274.8	286.4	298.1	305.9	309.7	313.7	317.5	321.4
82.5°	254.8	266.4	278.1	285.8	289.5	293.0	296.7	300.4
85°	225.9	237.6	249.3	257.1	261.0	264.9	268.7	272.7
87.5°	206.5	217.5	229.1	236.8	240.3	243.9	247.4	251.0
90°	210.9	220.6	233.2	241.1	244.4	247.8	251.1	254.5
92.5°	242.1	243.9	248.5	251.1	253.9	254.9	258.8	260.9
95°	358.0	323.6	303.2	294.0	287.8	285.1	286.3	290.4
97.5°	604.1	532.4	463.1	416.6	384.7	369.9	362.3	359.5
100°	818.3	737.3	646.6	564.1	506.1	477.4	459.1	448.8
102.5°	956.5	945.9	882.1	794.3	730.8	679.9	656.2	641.3
105°	1022.2	1115.2	1134.5	1116.5	1073.9	1031.3	1002.7	995.4
107.5°	955.7	1090.5	1176.5	1218.3	1227.1	1227.7	1224.5	1213.8
110°	901.2	1041.9	1145.1	1211.5	1246.2	1263.3	1273.0	1275.4



TEST NUMBER: P331398-830

CATALOG NUMBER: SA2XXDIP-C865D725U830-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	850.6	986.0	1095.7	1170.9	1218.0	1244.5	1260.1	1267.2
115°	786.6	908.3	1013.1	1094.8	1150.1	1187.0	1209.3	1219.0
117.5°	735.7	843.5	939.2	1016.0	1072.1	1110.8	1133.8	1142.3
120°	708.7	807.9	893.7	966.2	1020.9	1058.6	1083.0	1093.3
122.5°	686.4	777.6	859.1	924.8	973.6	1010.3	1032.0	1040.8
125°	652.9	736.2	808.6	868.8	914.1	944.6	965.5	973.9
127.5°	619.8	695.3	763.4	819.1	858.8	887.5	905.8	912.9
130°	598.6	668.6	733.5	786.6	824.9	852.2	869.1	877.2
132.5°	578.0	643.1	703.0	753.1	790.8	818.0	833.9	841.4
135°	549.3	603.8	658.2	703.5	737.4	763.9	779.4	784.6
137.5°	524.8	570.6	614.3	653.7	684.6	707.4	720.9	727.2
140°	509.4	549.3	587.6	623.1	648.4	669.2	681.8	688.0
142.5°	497.5	531.0	563.8	593.4	617.3	636.1	647.4	649.7
145°	481.5	507.5	532.0	554.9	574.0	587.9	596.6	600.2
147.5°	469.7	489.0	507.1	523.1	538.4	549.0	554.8	556.8
150°	462.7	478.9	494.4	507.7	518.7	527.5	532.0	532.7
152.5°	456.2	471.3	484.4	495.9	504.5	512.2	515.5	515.6
155°	447.2	459.0	470.0	478.2	486.3	491.4	494.4	492.9
157.5°	436.8	446.7	455.9	462.2	468.0	472.3	473.6	473.6
160°	430.3	438.4	446.5	451.7	456.9	460.5	461.2	461.2
162.5°	423.8	430.7	437.6	441.7	446.8	449.3	450.1	449.4
165°	414.1	419.2	424.4	427.3	430.3	433.2	433.2	432.5
167.5°	404.8	408.8	412.3	415.0	416.3	417.9	417.7	416.9
170°	400.1	402.3	405.2	406.7	407.5	409.6	408.9	407.5
172.5°	394.7	396.4	398.8	399.6	400.4	401.4	400.7	399.8
175°	389.0	389.7	390.5	391.2	391.2	392.0	391.2	389.7
177.5°	384.9	384.9	385.5	385.5	385.5	385.5	384.9	383.7
180°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1

(END OF REPORT)