

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: P331399-940

Luminaire Tested: **SA2XXDIP-C865D725U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331399-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D725U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

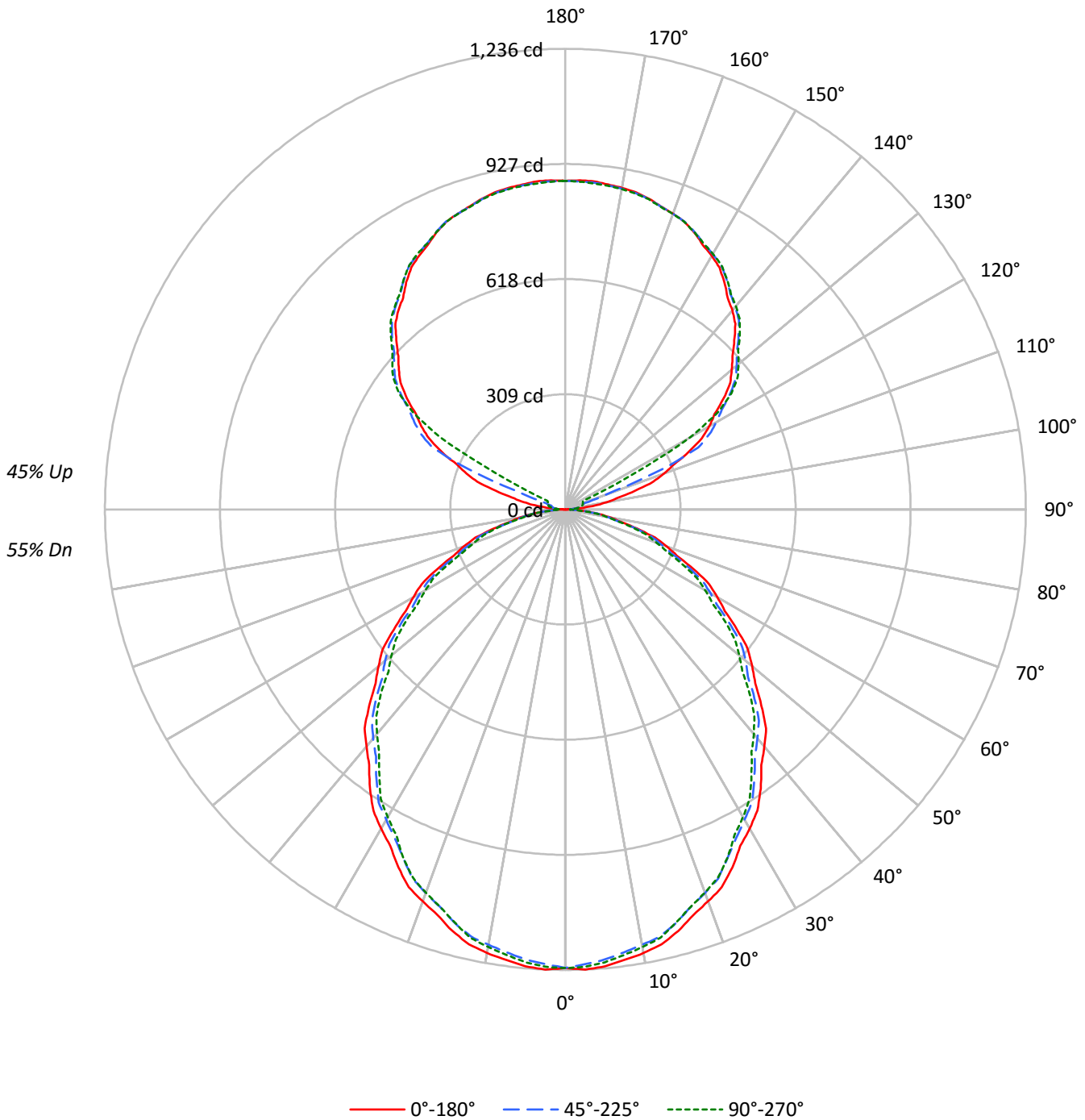
Lumens per Lamp: N/A
Luminaire Lumens: 5716.3 lumens
Efficiency: N/A
Efficacy: 105.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									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	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR	0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55																											
	1	99	94	91	87	92	88	84	81	75	73	71	64	62	61	54	52	51	46																											
	2	90	83	76	71	83	77	71	67	66	62	59	56	53	51	47	45	43	39																											
	3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37	33																											
	4	75	64	56	50	69	60	53	47	52	46	42	44	40	37	37	34	32	28																											
	5	69	57	49	43	64	54	46	41	46	41	36	40	35	32	34	30	28	24																											
	6	64	51	43	37	59	48	41	35	42	36	32	36	31	28	31	27	24	21																											
	7	59	46	38	33	54	44	36	31	38	32	28	33	28	25	28	24	22	19																											
	8	55	42	34	29	51	40	33	28	35	29	25	30	25	22	26	22	19	17																											
	9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	17	15																											
	10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	18	16	14																											

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19869	19869	19869
5°	19945	19656	19772
10°	19825	19457	19556
15°	19580	19206	19184
20°	19234	18826	18806
25°	18887	18360	18360
30°	18442	17935	17780
35°	18027	17422	17164
40°	17506	16910	16583
45°	16993	16401	15995
50°	16435	15872	15307
55°	15854	15254	14688
60°	15206	14518	13986
65°	14514	13788	13154
70°	13629	12902	12288
75°	12402	11884	11584
80°	11000	10674	10126
85°	8985	8559	7669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.7	2.0
10°-20°	325.6	5.7
20°-30°	478.6	8.4
30°-40°	555.9	9.7
40°-50°	555.3	9.7
50°-60°	484.3	8.5
60°-70°	358.1	6.3
70°-80°	202.8	3.5
80°-90°	56.7	1.0
90°-100°	29.4	0.5
100°-110°	107.8	1.9
110°-120°	288.3	5.0
120°-130°	475.8	8.3
130°-140°	506.0	8.9
140°-150°	470.3	8.2
150°-160°	378.1	6.6
160°-170°	243.7	4.3
170°-180°	83.9	1.5
0°-30°	919.9	16.1
0°-40°	1475.8	25.8
0°-60°	2515.4	44.0
0°-90°	3132.9	54.8
90°-120°	425.5	7.4
90°-150°	1877.7	32.8
90°-180°	2583.0	45.2
0°-180°	5716.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1231	1231	1231	1231	1231	
5°	1231	1225	1213	1222	1220	117
15°	1171	1164	1149	1153	1148	330
25°	1060	1050	1031	1033	1031	488
35°	915	902	884	877	871	571
45°	744	735	718	706	700	574
55°	563	556	542	528	522	503
65°	380	372	361	350	344	376
75°	199	196	190	184	186	212
85°	48	47	46	43	41	56
90°	1	8	13	16	17	4
95°	42	22	25	28	28	51
105°	194	202	39	46	48	207
115°	367	378	394	112	52	361
125°	519	527	539	543	545	462
135°	642	652	658	664	663	495
145°	744	744	755	759	756	465
155°	820	815	822	825	820	378
165°	864	860	862	866	862	244
175°	883	879	880	884	878	84
180°	882	882	882	882	882	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6
2.5°	1236.3	1235.2	1234.1	1233.1	1232.1	1230.4	1228.1	1225.7	1223.4	1221.1	1223.2
5°	1230.6	1229.5	1228.5	1227.4	1226.4	1224.4	1221.6	1218.6	1215.8	1212.8	1215.0
7.5°	1219.7	1218.1	1216.5	1214.8	1213.2	1210.9	1207.9	1205.0	1202.0	1199.1	1201.2
10°	1209.2	1207.5	1205.6	1203.7	1201.9	1199.4	1196.2	1193.1	1190.0	1186.8	1188.9
12.5°	1195.1	1193.5	1191.9	1190.2	1188.6	1186.2	1183.0	1179.8	1176.7	1173.6	1175.0
15°	1171.4	1169.8	1168.2	1166.7	1165.1	1162.6	1159.2	1155.7	1152.4	1149.0	1150.0
17.5°	1141.1	1139.5	1138.0	1136.4	1134.8	1132.3	1128.8	1125.3	1121.9	1118.4	1119.6
20°	1119.4	1117.8	1116.2	1114.6	1113.0	1110.4	1106.7	1103.0	1099.4	1095.7	1096.4
22.5°	1097.6	1095.4	1093.1	1090.9	1088.8	1085.9	1082.4	1079.0	1075.5	1072.0	1072.2
25°	1060.2	1058.1	1056.0	1053.9	1051.8	1048.5	1044.0	1039.6	1035.1	1030.6	1031.2
27.5°	1017.6	1015.7	1013.8	1011.9	1010.0	1007.3	1003.8	1000.2	996.8	993.2	992.5
30°	989.2	987.1	985.0	982.9	980.8	977.8	973.8	969.9	965.9	962.0	961.2
32.5°	958.9	957.3	955.6	953.9	952.2	949.2	945.1	940.9	936.8	932.6	931.2
35°	914.6	912.0	909.4	906.8	904.1	900.7	896.5	892.3	888.1	883.9	882.3
37.5°	864.7	862.4	860.1	857.7	855.5	852.2	848.0	843.8	839.5	835.4	833.4
40°	830.6	828.6	826.4	824.3	822.2	819.0	814.8	810.7	806.5	802.3	799.9
42.5°	797.5	795.4	793.3	791.2	789.1	786.0	781.8	777.6	773.3	769.1	766.5
45°	744.2	742.4	740.6	738.8	736.9	734.0	730.0	726.1	722.2	718.3	715.3
47.5°	691.3	689.6	687.8	686.1	684.3	681.4	677.3	673.2	669.1	664.9	661.9
50°	654.3	653.0	651.8	650.4	649.1	646.6	642.9	639.2	635.5	631.9	628.2
52.5°	618.4	616.6	614.9	613.1	611.4	608.9	605.4	601.9	598.4	594.9	591.9
55°	563.2	561.7	560.1	558.5	556.9	554.6	551.4	548.2	545.1	541.9	538.8
57.5°	507.8	506.6	505.3	504.1	502.8	500.4	497.0	493.5	490.0	486.5	483.5
60°	470.9	469.8	468.9	467.8	466.7	464.4	460.7	457.0	453.3	449.6	446.7
62.5°	435.0	433.3	431.6	429.9	428.2	426.0	423.1	420.3	417.4	414.6	412.0
65°	379.9	378.3	376.7	375.1	373.5	371.4	368.8	366.1	363.6	360.9	358.6
67.5°	323.8	322.4	321.2	319.9	318.7	316.9	314.5	312.1	309.8	307.4	305.6
70°	288.7	287.7	286.6	285.5	284.5	282.8	280.4	278.0	275.7	273.3	271.5
72.5°	252.7	251.7	250.7	249.6	248.5	247.3	245.8	244.2	242.6	241.1	239.3
75°	198.8	198.2	197.7	197.2	196.7	195.7	194.5	193.1	191.8	190.5	189.0
77.5°	150.5	149.6	148.7	147.8	147.0	146.2	145.7	145.2	144.6	144.1	143.3
80°	118.3	118.1	117.8	117.5	117.3	116.9	116.4	115.8	115.3	114.8	114.0
82.5°	88.0	88.0	87.9	87.8	87.8	87.7	87.3	87.0	86.7	86.4	85.3
85°	48.5	48.2	48.0	47.7	47.4	47.2	46.9	46.6	46.4	46.2	45.4
87.5°	17.2	17.0	16.9	16.9	16.8	16.6	16.4	16.2	16.0	15.8	15.3
90°	0.6	2.2	3.7	5.4	6.9	8.2	9.4	10.5	11.6	12.8	13.5
92.5°	12.8	12.8	12.6	12.5	12.3	12.6	13.1	13.6	14.3	14.8	15.2
95°	41.5	36.8	32.1	27.5	22.7	20.9	21.9	22.9	23.9	24.9	25.6
97.5°	82.3	69.1	55.9	42.7	29.5	24.1	26.4	28.7	31.0	33.3	33.9
100°	112.9	93.5	74.1	54.7	35.2	26.8	29.2	31.6	34.0	36.4	37.5
102.5°	146.6	142.5	138.4	134.3	130.1	118.0	97.8	77.7	57.5	37.4	38.9
105°	193.9	198.1	202.4	206.7	210.9	193.7	155.0	116.3	77.6	38.9	40.5
107.5°	247.9	251.3	254.8	258.2	261.6	240.1	193.7	147.3	100.9	54.5	52.9
110°	282.6	285.5	288.6	291.5	294.4	275.4	234.5	193.6	152.6	111.6	97.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	315.2	317.9	320.5	323.2	325.7	322.0	311.9	301.8	291.7	281.5	229.9
115°	366.8	369.2	371.6	374.0	376.4	379.4	382.9	386.5	390.0	393.6	328.0
117.5°	412.9	415.5	418.2	420.9	423.6	426.1	428.6	431.1	433.5	436.0	420.1
120°	446.5	448.6	450.8	452.9	455.0	457.4	459.9	462.4	465.0	467.5	469.2
122.5°	475.1	477.3	479.6	481.8	484.0	486.5	489.4	492.1	494.9	497.7	498.6
125°	518.6	520.4	522.3	524.1	525.9	528.2	530.9	533.6	536.3	539.0	540.0
127.5°	558.0	560.1	562.1	564.1	566.1	568.2	570.2	572.2	574.3	576.2	577.7
130°	583.0	585.3	587.5	589.8	592.1	594.0	595.6	597.1	598.7	600.2	601.8
132.5°	608.5	610.5	612.4	614.3	616.3	618.0	619.6	621.1	622.7	624.2	625.5
135°	641.7	644.0	646.2	648.5	650.8	652.6	653.8	655.1	656.4	657.6	659.1
137.5°	675.3	676.8	678.4	680.0	681.6	683.1	684.6	686.0	687.4	688.9	690.3
140°	697.2	698.3	699.5	700.6	701.7	703.1	704.6	706.2	707.8	709.4	710.6
142.5°	715.6	716.6	717.6	718.6	719.6	721.0	722.8	724.6	726.4	728.2	729.3
145°	744.4	744.2	744.1	744.0	743.9	744.9	747.3	749.8	752.2	754.6	755.6
147.5°	769.5	769.0	768.5	767.9	767.4	768.3	770.7	773.0	775.4	777.8	778.6
150°	785.9	784.9	783.9	782.9	781.9	782.6	784.8	787.0	789.3	791.6	792.5
152.5°	799.6	798.5	797.5	796.3	795.2	795.8	797.9	800.0	802.2	804.3	805.2
155°	819.7	818.4	817.1	815.8	814.6	814.8	816.5	818.1	819.8	821.5	822.4
157.5°	835.4	834.3	833.2	832.1	831.1	831.1	832.3	833.5	834.6	835.9	836.9
160°	844.5	843.6	842.8	842.0	841.2	841.2	842.0	842.8	843.6	844.5	845.4
162.5°	852.7	851.9	851.0	850.2	849.3	849.3	850.0	850.7	851.5	852.2	853.2
165°	863.7	862.8	862.0	861.1	860.2	860.1	860.5	860.9	861.3	861.7	862.7
167.5°	871.8	871.0	870.1	869.3	868.4	868.2	868.6	869.0	869.4	869.8	870.8
170°	876.5	875.6	874.8	873.9	873.1	872.7	873.1	873.3	873.6	873.9	874.9
172.5°	879.5	878.6	877.8	876.9	876.1	875.8	876.1	876.4	876.6	876.9	878.0
175°	883.4	882.4	881.5	880.5	879.5	879.1	879.4	879.7	879.9	880.3	881.3
177.5°	884.1	883.3	882.5	881.7	880.9	880.6	880.7	880.8	880.9	881.0	881.8
180°	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6
2.5°	1225.3	1227.4	1229.5	1230.4	1229.9	1229.5	1229.1	1228.7
5°	1217.0	1219.1	1221.3	1222.0	1221.6	1221.0	1220.5	1219.9
7.5°	1203.3	1205.4	1207.6	1208.3	1207.7	1207.1	1206.6	1205.9
10°	1191.0	1193.1	1195.2	1195.9	1195.1	1194.3	1193.5	1192.8
12.5°	1176.5	1177.9	1179.5	1179.9	1179.3	1178.8	1178.1	1177.6
15°	1151.0	1152.1	1153.2	1153.0	1151.7	1150.4	1149.1	1147.7
17.5°	1120.8	1122.0	1123.3	1123.2	1122.0	1120.7	1119.5	1118.2
20°	1097.3	1098.1	1098.9	1098.7	1097.7	1096.6	1095.6	1094.5
22.5°	1072.4	1072.5	1072.6	1072.5	1071.7	1071.1	1070.5	1069.9
25°	1031.7	1032.2	1032.7	1032.7	1032.2	1031.7	1031.2	1030.6
27.5°	991.7	990.9	990.1	989.1	987.7	986.5	985.3	984.0
30°	960.4	959.7	958.9	957.9	956.9	955.8	954.8	953.7
32.5°	929.8	928.4	926.9	925.7	924.7	923.6	922.6	921.5
35°	880.7	879.1	877.6	876.1	874.9	873.5	872.2	870.8
37.5°	831.5	829.6	827.6	826.0	824.7	823.5	822.2	820.9
40°	797.5	795.1	792.8	791.0	790.1	789.0	787.9	786.8
42.5°	763.9	761.3	758.8	756.8	755.3	753.9	752.3	750.9
45°	712.5	709.5	706.7	704.7	703.6	702.6	701.5	700.5
47.5°	658.9	655.9	652.8	650.5	649.0	647.5	646.0	644.4
50°	624.5	620.8	617.2	614.7	613.3	612.0	610.7	609.4
52.5°	588.8	585.8	582.7	580.3	578.6	576.8	575.2	573.4
55°	535.7	532.4	529.3	527.1	525.8	524.4	523.2	521.8
57.5°	480.4	477.2	474.1	472.1	471.1	470.1	469.1	468.1
60°	443.9	441.0	438.1	436.2	435.4	434.6	433.8	433.1
62.5°	409.2	406.5	403.9	402.1	401.0	400.0	399.0	398.1
65°	356.1	353.8	351.4	349.6	348.3	347.0	345.6	344.3
67.5°	303.7	301.8	300.1	298.6	297.6	296.5	295.4	294.4
70°	269.7	267.8	266.0	264.5	263.5	262.4	261.4	260.3
72.5°	237.5	235.6	233.8	232.5	231.6	230.8	229.9	229.1
75°	187.3	185.7	184.2	183.7	184.2	184.8	185.2	185.7
77.5°	142.6	141.8	141.0	140.2	139.5	138.8	138.0	137.2
80°	113.2	112.4	111.6	110.9	110.4	109.9	109.4	108.9
82.5°	84.4	83.4	82.4	81.9	81.7	81.6	81.5	81.4
85°	44.6	43.8	43.0	42.4	42.2	41.9	41.6	41.4
87.5°	14.8	14.4	13.8	13.6	13.4	13.2	13.1	12.9
90°	14.2	14.9	15.6	16.1	16.4	16.7	16.9	17.2
92.5°	15.5	15.9	16.2	16.6	16.7	16.9	17.0	17.2
95°	26.3	27.0	27.7	28.0	27.8	27.7	27.6	27.5
97.5°	34.4	35.0	35.6	35.9	36.1	36.3	36.5	36.6
100°	38.6	39.8	40.9	41.6	41.9	42.2	42.4	42.7
102.5°	40.3	41.8	43.2	44.2	44.6	45.0	45.4	45.8
105°	42.0	43.6	45.1	46.2	46.8	47.3	47.9	48.5
107.5°	51.3	49.7	48.2	47.6	48.2	48.8	49.3	49.8
110°	83.3	69.1	54.9	48.2	48.7	49.2	49.8	50.4



TEST NUMBER: P331399-940

CATALOG NUMBER: SA2XXDIP-C865D725U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	178.2	126.4	74.7	49.0	49.6	50.0	50.5	50.9
115°	262.3	196.7	131.1	93.1	82.9	72.7	62.5	52.3
117.5°	404.2	388.3	372.4	347.7	314.1	280.6	247.1	213.6
120°	471.0	472.7	474.4	465.7	446.5	427.4	408.2	389.1
122.5°	499.7	500.7	501.8	500.4	496.7	492.9	489.3	485.5
125°	541.0	542.0	543.0	543.7	544.1	544.6	544.9	545.4
127.5°	579.2	580.6	582.0	582.8	582.9	583.0	583.1	583.2
130°	603.3	604.9	606.5	607.2	607.1	606.9	606.7	606.6
132.5°	626.9	628.2	629.5	630.2	630.0	629.9	629.7	629.5
135°	660.5	661.9	663.3	663.9	663.6	663.3	663.0	662.7
137.5°	691.7	693.0	694.5	694.9	694.5	693.9	693.5	692.9
140°	711.9	713.1	714.4	714.7	714.0	713.3	712.6	711.9
142.5°	730.5	731.6	732.8	733.1	732.4	731.6	730.9	730.2
145°	756.6	757.6	758.6	758.7	758.0	757.3	756.6	755.9
147.5°	779.3	780.1	780.8	780.9	780.2	779.6	779.1	778.5
150°	793.3	794.2	795.0	795.0	794.3	793.6	792.9	792.2
152.5°	806.0	806.9	807.8	807.7	806.8	805.8	804.9	804.0
155°	823.3	824.1	825.0	824.8	823.7	822.6	821.4	820.3
157.5°	837.8	838.7	839.7	839.6	838.6	837.4	836.3	835.3
160°	846.2	847.1	847.9	847.8	846.9	845.9	844.9	843.9
162.5°	854.1	855.1	856.0	856.0	854.7	853.5	852.3	851.0
165°	863.7	864.8	865.8	865.8	864.8	863.7	862.7	861.7
167.5°	871.8	872.8	873.8	873.6	872.4	871.1	869.8	868.5
170°	875.8	876.8	877.9	877.7	876.5	875.1	873.9	872.6
172.5°	879.0	879.9	880.9	880.7	879.5	878.2	876.9	875.7
175°	882.3	883.2	884.2	884.0	882.6	881.2	879.8	878.3
177.5°	882.6	883.4	884.2	884.1	883.1	882.1	881.0	880.0
180°	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5

(END OF REPORT)