

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: P331722-927

Luminaire Tested: **SA2XXRDIP-C865D725U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331722-927  
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: SA2XXRDIP-C865D725U927-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

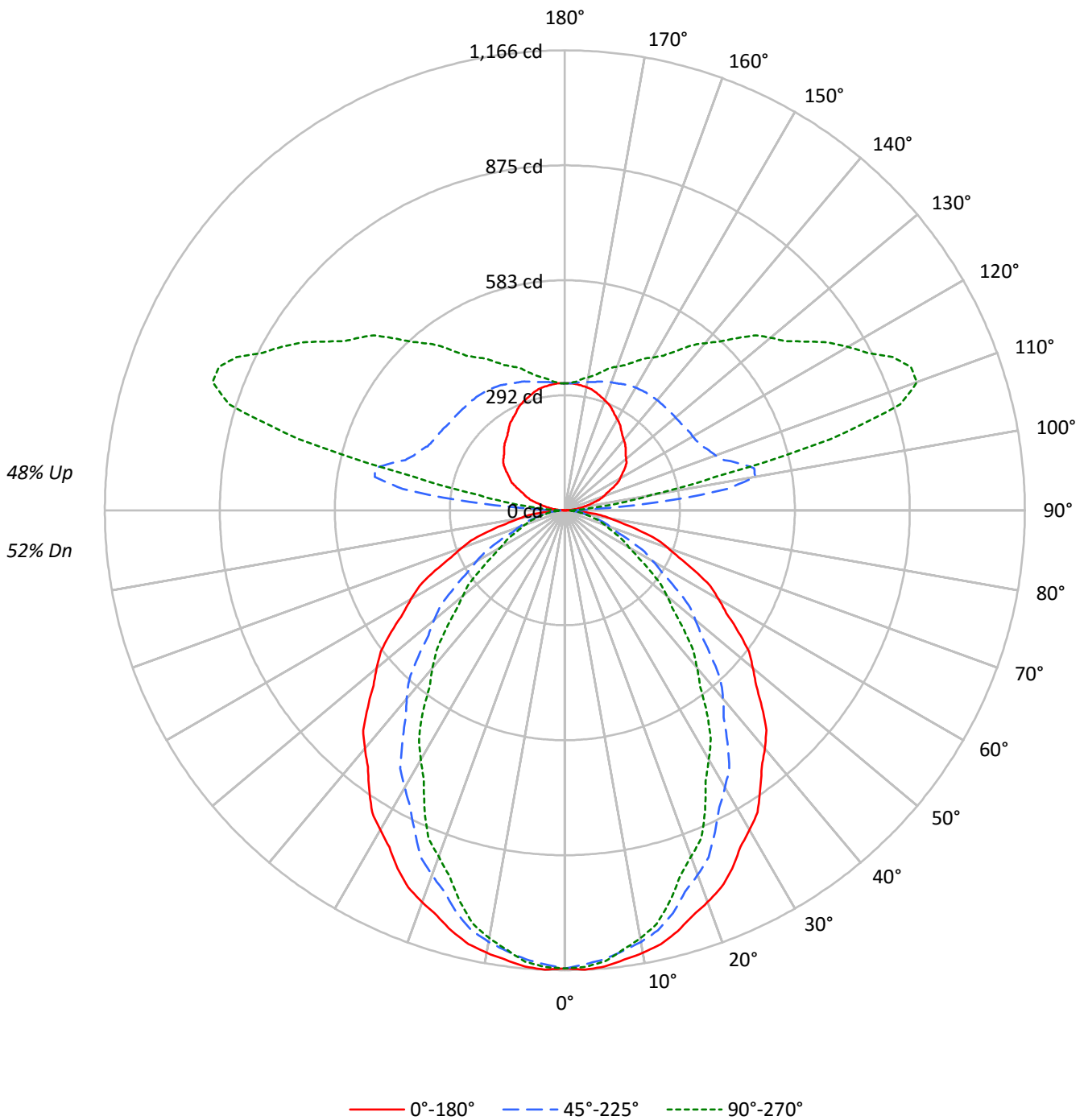
Lumens per Lamp: N/A  
Luminaire Lumens: 4632.7 lumens  
Efficiency: N/A  
Efficacy: 85.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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	
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	0	
RCR																						
0	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52				
1	99	94	91	87	91	88	84	81	75	72	70	63	61	60	52	51	50	44				
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	46	44	43	38				
3	83	73	66	61	76	68	62	57	59	54	50	50	46	43	41	39	37	33				
4	76	65	58	52	70	61	54	49	52	47	43	45	41	38	37	34	32	29				
5	70	58	51	45	64	55	48	42	47	42	38	40	36	33	34	31	28	25				
6	64	53	45	39	60	49	42	37	43	37	33	37	32	29	31	28	25	22				
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	23	20				
8	56	43	36	31	51	41	34	29	36	30	26	31	26	23	26	23	20	18				
9	52	40	32	27	48	37	31	26	33	27	24	28	24	21	24	21	19	16				
10	48	37	30	25	45	34	28	24	30	25	21	26	22	19	22	19	17	15				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	18755	18755	18755
5°	18827	18519	18621
10°	18682	18216	18061
15°	18467	17677	17167
20°	18170	16905	16057
25°	17865	16030	14982
30°	17443	15129	13601
35°	17030	14152	12390
40°	16617	13139	10989
45°	16130	12001	9720
50°	15631	10854	8475
55°	15122	9619	7279
60°	14528	8315	6042
65°	13857	6988	5501
70°	13053	5755	5061
75°	12071	5246	4722
80°	10646	4695	4305
85°	8373	3705	3705



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.7	2.3
10°-20°	298.5	6.4
20°-30°	419.2	9.0
30°-40°	457.1	9.9
40°-50°	420.3	9.1
50°-60°	330.1	7.1
60°-70°	215.2	4.6
70°-80°	111.0	2.4
80°-90°	31.7	0.7
90°-100°	128.7	2.8
100°-110°	436.9	9.4
110°-120°	464.2	10.0
120°-130°	382.1	8.2
130°-140°	306.8	6.6
140°-150°	231.9	5.0
150°-160°	163.0	3.5
160°-170°	95.9	2.1
170°-180°	31.2	0.7
0°-30°	826.5	17.8
0°-40°	1283.6	27.7
0°-60°	2034.0	43.9
0°-90°	2391.9	51.6
90°-120°	1029.8	22.2
90°-150°	1950.7	42.1
90°-180°	2241.0	48.4
0°-180°	4632.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1162	1162	1162	1162	1162	
5°	1162	1156	1143	1151	1149	110
15°	1105	1092	1058	1038	1027	311
25°	1003	967	900	858	841	461
35°	864	808	718	654	629	541
45°	706	634	526	454	426	545
55°	537	453	342	281	259	480
65°	363	277	183	149	144	359
75°	194	122	84	77	76	205
85°	45	24	20	20	20	53
90°	1	8	21	20	20	3
95°	22	53	243	92	71	23
105°	76	114	459	820	698	80
115°	133	168	384	792	918	132
125°	186	220	369	642	745	165
135°	218	260	365	539	617	168
145°	249	286	363	451	493	156
155°	283	306	352	398	414	130
165°	308	318	338	358	364	87
175°	321	322	324	328	328	31
180°	322	322	322	322	322	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6
2.5°	1165.8	1164.8	1163.9	1162.9	1162.1	1160.5	1158.5	1156.4	1154.4	1152.3	1154.2
5°	1161.6	1160.4	1159.2	1158.0	1156.9	1154.8	1151.8	1148.7	1145.7	1142.6	1144.7
7.5°	1149.5	1148.1	1146.7	1145.3	1143.8	1141.3	1137.7	1134.2	1130.6	1127.0	1127.7
10°	1139.5	1137.8	1136.2	1134.6	1132.9	1129.8	1125.1	1120.5	1115.8	1111.1	1110.4
12.5°	1126.9	1124.8	1122.8	1120.9	1118.8	1114.8	1108.8	1102.9	1096.9	1090.9	1089.6
15°	1104.8	1102.2	1099.6	1097.1	1094.5	1089.3	1081.3	1073.4	1065.4	1057.5	1053.0
17.5°	1077.7	1073.7	1069.8	1065.9	1062.0	1054.9	1044.7	1034.5	1024.4	1014.2	1008.9
20°	1057.5	1052.8	1048.1	1043.5	1038.8	1030.6	1018.9	1007.3	995.6	983.9	978.0
22.5°	1035.6	1030.4	1025.2	1019.9	1014.7	1005.5	992.3	979.1	966.0	952.8	945.2
25°	1002.8	995.4	987.9	980.4	973.0	961.5	946.0	930.7	915.2	899.8	890.3
27.5°	963.3	955.1	947.1	938.9	930.8	918.1	900.6	883.3	865.9	848.5	837.3
30°	935.6	926.7	917.8	908.9	900.1	886.3	867.6	848.9	830.2	811.5	799.6
32.5°	908.6	898.3	887.9	877.5	867.1	852.5	833.4	814.3	795.3	776.2	762.6
35°	864.0	852.2	840.3	828.3	816.4	800.2	779.6	759.1	738.6	718.0	703.2
37.5°	819.5	806.4	793.4	780.2	767.1	749.6	727.8	705.8	684.0	662.0	645.8
40°	788.4	774.4	760.3	746.3	732.3	714.0	691.3	668.7	646.0	623.4	606.7
42.5°	756.5	741.6	726.9	712.2	697.4	678.3	654.9	631.4	608.1	584.6	567.5
45°	706.4	690.7	675.1	659.4	643.8	623.7	599.2	574.6	550.1	525.6	509.0
47.5°	657.6	641.0	624.5	607.8	591.3	570.3	545.0	519.7	494.3	469.1	452.6
50°	622.3	605.7	589.1	572.5	556.0	534.8	509.1	483.4	457.7	432.1	415.9
52.5°	587.8	570.5	553.2	535.8	518.5	497.3	472.1	446.9	421.8	396.7	381.1
55°	537.2	519.0	500.7	482.5	464.3	442.5	417.3	392.1	366.9	341.7	327.6
57.5°	485.2	466.5	447.8	429.1	410.5	389.0	364.7	340.5	316.2	292.0	279.2
60°	449.9	431.2	412.6	393.9	375.2	353.8	329.7	305.6	281.6	257.5	245.7
62.5°	415.4	396.7	378.0	359.3	340.6	319.9	296.9	274.0	251.0	228.1	216.7
65°	362.7	343.7	324.8	305.9	287.0	267.0	246.0	225.0	203.9	182.9	175.0
67.5°	311.8	293.0	274.3	255.4	236.6	217.8	198.9	180.0	161.1	142.1	138.5
70°	276.5	258.3	240.0	221.8	203.6	186.4	170.3	154.2	138.1	121.9	119.6
72.5°	242.8	225.4	207.9	190.4	172.9	157.7	144.8	131.8	118.9	106.0	104.0
75°	193.5	177.1	160.7	144.3	128.0	115.9	107.9	100.0	92.1	84.1	82.5
77.5°	144.9	130.5	116.1	101.8	87.5	78.4	74.5	70.7	66.9	63.1	62.1
80°	114.5	102.7	90.8	78.8	66.9	59.8	57.4	55.1	52.8	50.5	49.5
82.5°	86.8	77.6	68.2	58.9	49.7	44.2	42.6	41.0	39.5	37.9	37.3
85°	45.2	40.3	35.4	30.5	25.6	22.8	22.1	21.4	20.7	20.0	20.0
87.5°	13.5	12.4	11.5	10.2	9.0	8.6	9.2	10.1	10.9	10.9	10.6
90°	0.6	2.5	5.0	6.2	7.4	9.3	12.4	16.7	20.4	21.1	20.4
92.5°	7.5	10.9	15.4	18.1	22.3	28.1	42.1	61.8	79.4	80.5	68.0
95°	21.7	24.2	30.3	35.9	45.8	60.7	89.2	143.1	214.9	242.7	212.4
97.5°	35.3	38.7	45.2	53.6	65.0	81.8	117.6	192.7	312.1	414.4	434.7
100°	47.7	49.5	55.1	65.0	77.4	94.7	127.5	203.1	336.8	489.2	578.4
102.5°	59.1	60.4	66.0	75.9	88.8	106.2	136.5	203.6	327.5	491.7	631.8
105°	75.6	78.0	82.4	91.7	105.3	122.6	151.7	206.8	309.0	458.8	623.6
107.5°	93.4	95.4	99.6	108.1	121.6	139.1	167.3	215.4	299.8	423.7	569.2
110°	105.3	107.7	111.5	119.5	132.5	150.5	177.7	222.3	297.9	406.9	535.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	116.1	118.7	122.9	130.4	142.9	161.4	187.7	229.7	298.3	395.9	511.3
115°	133.2	136.3	140.0	147.3	159.8	176.5	203.1	240.9	301.0	384.0	481.8
117.5°	150.8	153.2	156.9	163.5	175.4	192.7	217.4	252.8	305.4	378.1	463.2
120°	161.6	164.1	167.8	173.4	185.8	203.1	227.3	260.7	308.4	374.6	453.3
122.5°	172.1	174.0	177.7	183.8	196.1	214.0	236.7	267.7	311.9	372.6	444.9
125°	185.8	187.7	191.3	198.8	211.2	228.5	250.8	278.7	317.0	369.1	432.8
127.5°	196.7	199.2	204.4	212.5	224.4	242.2	264.0	288.9	322.4	366.9	421.7
130°	203.1	205.6	211.8	220.5	232.8	250.2	271.9	295.4	326.4	366.0	414.3
132.5°	209.1	212.1	218.7	227.9	240.7	258.1	278.8	301.8	330.3	365.5	408.4
135°	218.0	220.5	227.9	237.2	251.4	268.8	288.6	310.2	335.0	364.7	400.1
137.5°	226.4	229.3	236.8	246.7	260.9	276.9	296.5	316.7	339.2	364.6	394.2
140°	232.8	235.3	242.7	252.6	266.3	282.4	301.0	320.1	341.2	364.1	390.8
142.5°	239.2	241.3	248.2	258.1	271.2	286.4	304.4	323.1	342.7	364.1	387.3
145°	248.9	251.4	257.6	266.9	279.2	292.9	309.7	326.9	344.3	362.9	382.7
147.5°	259.4	261.2	267.1	275.7	286.0	298.1	313.9	329.1	344.8	360.7	378.0
150°	266.3	268.2	273.1	281.1	290.4	301.6	315.8	330.0	344.3	359.2	374.0
152.5°	273.2	274.1	279.0	286.1	294.9	305.1	317.8	330.6	343.3	356.7	370.6
155°	283.0	283.6	287.3	294.1	301.0	310.2	320.8	331.3	341.8	352.4	364.1
157.5°	291.2	291.8	294.8	300.7	306.2	313.9	322.9	331.3	339.0	347.9	358.1
160°	296.6	297.2	299.7	304.7	309.7	316.4	323.8	331.3	337.5	344.9	353.6
162.5°	302.1	301.7	304.2	308.2	312.6	317.9	324.4	330.8	336.0	342.5	349.6
165°	308.4	307.8	309.0	312.8	315.8	319.6	325.1	329.5	333.2	337.5	343.1
167.5°	313.6	312.8	313.9	316.3	318.5	320.9	325.0	328.6	330.3	333.2	336.6
170°	317.0	315.8	316.4	318.3	319.6	321.4	324.5	327.6	328.8	330.7	333.2
172.5°	319.0	318.3	317.9	319.8	320.5	321.9	324.0	326.1	326.9	327.7	329.7
175°	321.4	320.8	320.1	321.4	321.4	322.0	323.2	324.5	323.8	324.5	325.1
177.5°	322.5	321.5	321.0	322.0	322.0	322.0	322.5	323.5	322.5	322.0	322.5
180°	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6
2.5°	1156.0	1157.9	1159.8	1160.5	1160.2	1159.8	1159.4	1159.0
5°	1146.8	1148.9	1151.0	1151.8	1151.0	1150.3	1149.6	1148.9
7.5°	1128.3	1128.9	1129.5	1129.2	1128.0	1126.8	1125.5	1124.3
10°	1109.7	1109.0	1108.3	1107.2	1105.8	1104.5	1103.0	1101.6
12.5°	1088.4	1087.1	1085.8	1084.1	1081.7	1079.4	1077.1	1074.8
15°	1048.6	1044.2	1039.7	1036.3	1034.0	1031.7	1029.4	1027.0
17.5°	1003.6	998.3	993.1	988.4	984.4	980.4	976.4	972.3
20°	972.2	966.4	960.5	955.1	949.9	944.8	939.6	934.5
22.5°	937.8	930.3	922.7	917.0	913.2	909.3	905.5	901.7
25°	880.7	871.1	861.5	854.9	851.4	848.0	844.5	841.0
27.5°	826.2	815.0	803.8	795.5	790.0	784.3	778.8	773.2
30°	787.7	775.8	763.8	754.7	748.5	742.1	735.9	729.5
32.5°	749.0	735.4	721.8	712.0	706.2	700.2	694.3	688.3
35°	688.5	673.8	659.1	649.2	644.0	638.9	633.7	628.6
37.5°	629.6	613.4	597.2	586.1	580.3	574.3	568.5	562.6
40°	590.2	573.6	557.0	545.7	539.6	533.5	527.4	521.4
42.5°	550.4	533.2	516.1	504.5	498.7	492.8	486.9	481.0
45°	492.4	475.9	459.2	448.1	442.5	437.0	431.3	425.7
47.5°	436.0	419.5	403.1	392.3	387.2	382.1	377.0	371.9
50°	399.8	383.7	367.6	357.0	352.1	347.2	342.3	337.4
52.5°	365.6	350.1	334.5	324.5	319.9	315.4	310.9	306.3
55°	313.6	299.6	285.6	276.3	271.9	267.4	263.0	258.6
57.5°	266.3	253.5	240.7	232.3	228.6	224.8	221.1	217.4
60°	233.7	221.8	209.8	202.1	198.3	194.6	190.8	187.1
62.5°	205.4	194.1	182.7	175.9	173.6	171.4	169.1	166.9
65°	167.0	159.1	151.1	146.8	146.1	145.4	144.7	144.0
67.5°	134.8	131.2	127.5	125.3	124.6	123.8	123.1	122.4
70°	117.2	114.9	112.6	111.0	110.0	109.1	108.1	107.2
72.5°	102.0	100.1	98.1	96.9	96.3	95.7	95.1	94.6
75°	80.8	79.2	77.6	76.6	76.4	76.1	75.9	75.7
77.5°	61.2	60.3	59.3	58.7	58.3	57.9	57.6	57.2
80°	48.6	47.7	46.7	46.3	46.3	46.3	46.3	46.3
82.5°	36.8	36.1	35.6	35.3	35.3	35.3	35.3	35.3
85°	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
87.5°	10.3	9.9	10.0	10.0	10.0	10.0	10.0	10.0
90°	19.8	18.6	19.8	20.4	20.4	20.4	20.4	20.4
92.5°	54.0	46.3	41.1	37.3	36.8	34.8	35.3	34.3
95°	162.2	124.5	98.5	84.8	76.8	71.9	69.9	70.6
97.5°	378.6	309.7	242.7	198.0	168.4	153.2	144.2	138.9
100°	565.4	488.6	403.8	328.8	277.4	250.8	232.8	221.7
102.5°	687.8	670.4	608.3	528.9	473.1	427.6	405.2	390.1
105°	752.4	822.4	830.4	810.0	771.6	733.2	706.5	697.9
107.5°	705.8	811.2	875.6	905.6	910.5	908.3	903.0	891.4
110°	665.7	776.6	855.8	906.6	933.2	945.0	950.5	949.9





TEST NUMBER: P331722-927

CATALOG NUMBER: SA2XXRDIP-C865D725U927-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	629.1	735.4	820.1	878.4	915.4	935.1	945.6	949.0
115°	583.9	679.3	760.4	824.2	868.2	896.7	912.8	918.4
117.5°	550.0	633.7	707.3	767.1	812.0	842.1	859.0	863.7
120°	533.1	610.0	675.6	732.0	775.3	804.4	822.4	828.5
122.5°	519.8	590.2	652.3	703.2	742.1	770.7	786.7	791.9
125°	500.3	564.1	618.6	665.0	701.0	724.5	740.0	745.0
127.5°	481.2	538.8	590.3	633.1	664.5	686.5	699.9	703.9
130°	468.7	522.0	570.9	611.8	642.1	663.2	675.6	680.6
132.5°	456.9	506.2	551.1	589.5	619.4	640.4	651.8	656.2
135°	440.3	481.2	522.0	556.7	583.4	603.8	614.9	617.4
137.5°	427.1	461.2	493.7	523.9	548.2	565.8	575.5	579.2
140°	418.6	448.4	476.8	504.1	523.9	540.0	549.3	553.0
142.5°	411.7	437.0	461.4	484.3	503.1	517.7	526.0	526.7
145°	401.9	422.3	441.6	459.5	474.4	484.9	491.1	492.9
147.5°	394.3	410.4	425.4	438.6	450.8	459.2	463.4	464.5
150°	388.9	402.5	415.5	426.7	435.9	443.4	447.1	447.7
152.5°	383.4	396.1	407.1	416.8	424.1	430.5	433.2	433.3
155°	375.9	385.8	395.1	401.9	408.7	413.0	415.5	414.3
157.5°	367.1	375.4	383.2	388.5	393.3	397.0	398.1	398.1
160°	361.6	368.4	375.3	379.6	384.0	387.1	387.6	387.6
162.5°	356.2	362.0	367.8	371.2	375.5	377.6	378.3	377.7
165°	348.0	352.4	356.7	359.2	361.6	364.1	364.1	363.5
167.5°	340.2	343.6	346.5	348.8	349.9	351.3	351.1	350.4
170°	336.3	338.1	340.6	341.8	342.5	344.3	343.6	342.5
172.5°	331.8	333.2	335.2	335.9	336.5	337.4	336.8	336.0
175°	326.9	327.6	328.2	328.8	328.8	329.5	328.8	327.6
177.5°	323.5	323.5	324.0	324.0	324.0	324.0	323.5	322.5
180°	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0

(END OF REPORT)