

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: P331392-840

Luminaire Tested: **SA2XXDIP-C865D530U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331392-840  
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-C865D530U840-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5632.3 lumens  
Efficiency: N/A  
Efficacy: 115.4 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: Semi-Direct

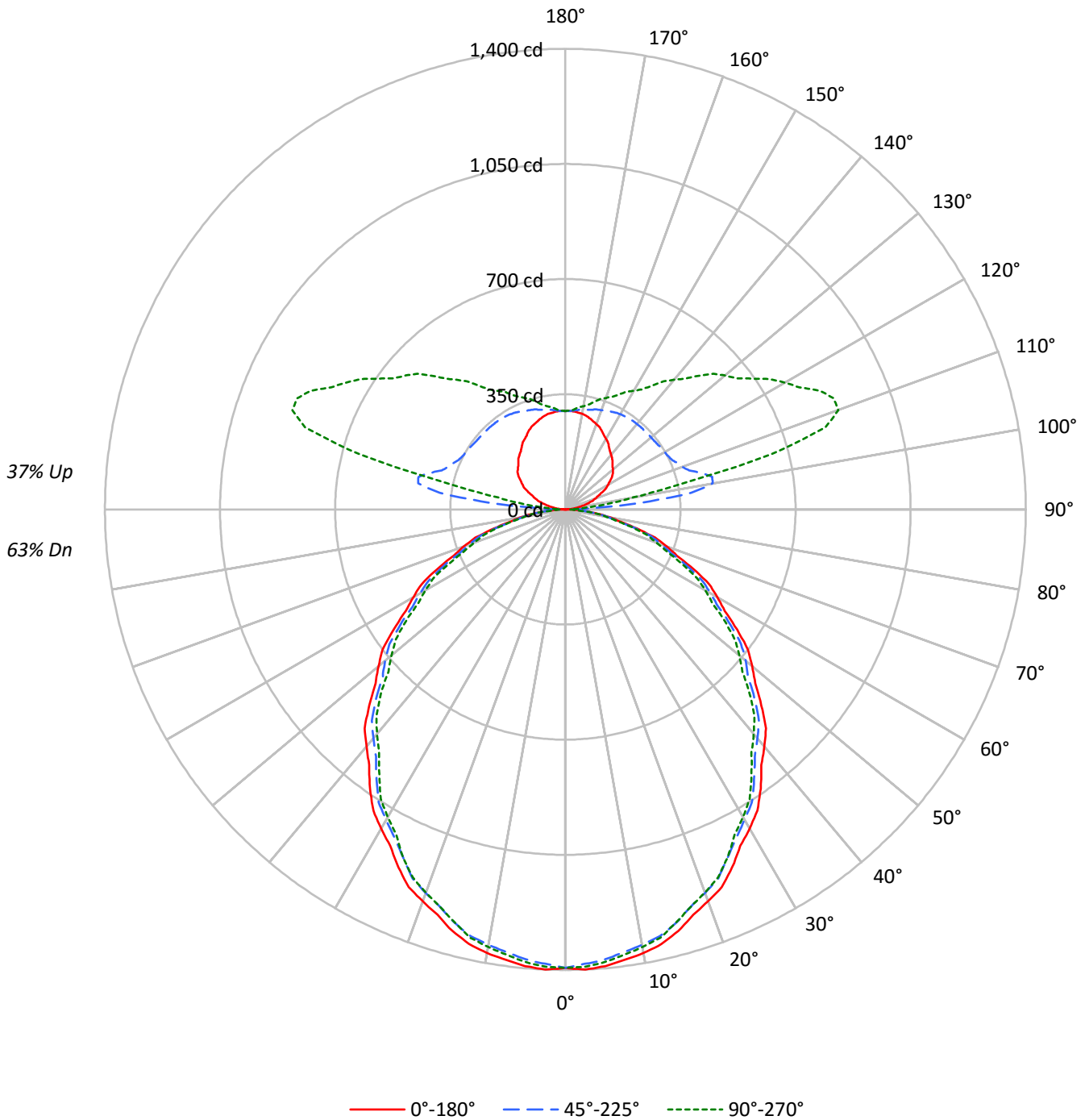
Input Watts (W): 48.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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									50									30									10									0									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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63																			63									
1	101	96	92	89	94	90	87	84	79	77	74	69	68	66	60	59	57	53																			53									
2	92	84	78	73	86	79	74	69	70	65	62	61	58	55	53	51	48	44																			44									
3	84	74	66	60	78	70	63	58	61	56	52	54	50	46	47	44	41	38																			38									
4	77	66	57	51	72	62	55	49	55	49	44	48	44	40	42	38	36	32																			32									
5	70	58	50	44	66	55	48	42	49	43	38	43	38	35	38	34	31	28																			28									
6	65	53	44	38	61	50	42	37	44	38	34	39	34	30	34	30	27	25																			25									
7	60	48	39	34	56	45	38	32	40	34	30	36	31	27	31	27	24	22																			22									
8	56	43	35	30	52	41	34	29	37	31	26	33	28	24	29	25	22	20																			20									
9	52	40	32	27	49	38	31	26	34	28	24	30	25	22	27	23	20	18																			18									
10	49	36	29	24	46	35	28	23	31	25	21	28	23	20	25	21	18	16																			16									

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

	0°	45°	90°
0°	22501	22501	22501
5°	22587	22261	22392
10°	22453	22035	22146
15°	22176	21750	21727
20°	21782	21321	21297
25°	21389	20794	20794
30°	20885	20310	20137
35°	20416	19730	19438
40°	19827	19150	18782
45°	19244	18573	18114
50°	18613	17975	17334
55°	17954	17275	16636
60°	17221	16443	15839
65°	16435	15614	14896
70°	15437	14611	13917
75°	14042	13456	13125
80°	12459	12087	11464
85°	10170	9689	8688



TEST NUMBER: P331392-840

CATALOG NUMBER: SA2XXDIP-C865D530U840-4F0-1E-UDD-F4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.0	2.3
10°-20°	368.7	6.5
20°-30°	542.0	9.6
30°-40°	629.6	11.2
40°-50°	628.9	11.2
50°-60°	548.4	9.7
60°-70°	405.5	7.2
70°-80°	229.7	4.1
80°-90°	64.5	1.1
90°-100°	119.7	2.1
100°-110°	406.3	7.2
110°-120°	431.7	7.7
120°-130°	355.4	6.3
130°-140°	285.4	5.1
140°-150°	215.7	3.8
150°-160°	151.6	2.7
160°-170°	89.2	1.6
170°-180°	29.0	0.5
0°-30°	1041.8	18.5
0°-40°	1671.3	29.7
0°-60°	2848.6	50.6
0°-90°	3548.3	63.0
90°-120°	957.8	17.0
90°-150°	1814.1	32.2
90°-180°	2084.0	37.0
0°-180°	5632.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1394	1394	1394	1394	1394	
5°	1394	1388	1374	1384	1382	132
15°	1327	1318	1301	1306	1300	373
25°	1201	1189	1167	1170	1167	552
35°	1036	1022	1001	993	986	646
45°	843	833	813	799	793	650
55°	638	629	614	598	591	570
65°	430	422	409	397	390	425
75°	225	222	216	208	210	240
85°	55	54	52	48	47	63
90°	1	8	20	19	19	4
95°	20	50	226	85	66	21
105°	70	106	427	763	649	75
115°	124	156	357	737	854	123
125°	173	204	343	597	693	153
135°	203	242	339	502	574	157
145°	232	266	338	419	458	145
155°	263	284	328	371	385	121
165°	287	295	314	333	338	81
175°	299	299	302	306	305	28
180°	299	299	299	299	299	



TEST NUMBER: P331392-840

CATALOG NUMBER: SA2XXDIP-C865D530U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6
2.5°	1400.1	1398.9	1397.7	1396.5	1395.3	1393.4	1390.8	1388.2	1385.5	1382.9	1385.3
5°	1393.6	1392.4	1391.3	1390.1	1388.9	1386.6	1383.4	1380.1	1376.8	1373.5	1375.9
7.5°	1381.3	1379.5	1377.7	1375.7	1373.9	1371.3	1368.0	1364.6	1361.3	1358.0	1360.4
10°	1369.5	1367.5	1365.3	1363.2	1361.2	1358.4	1354.7	1351.2	1347.7	1344.0	1346.5
12.5°	1353.4	1351.6	1349.8	1347.9	1346.0	1343.3	1339.8	1336.2	1332.6	1329.1	1330.7
15°	1326.7	1324.8	1323.0	1321.3	1319.5	1316.7	1312.8	1308.9	1305.0	1301.2	1302.3
17.5°	1292.3	1290.5	1288.8	1287.0	1285.2	1282.3	1278.4	1274.4	1270.5	1266.6	1268.0
20°	1267.7	1265.9	1264.1	1262.3	1260.5	1257.6	1253.3	1249.2	1245.1	1240.9	1241.7
22.5°	1243.0	1240.5	1238.0	1235.5	1233.0	1229.8	1225.9	1221.9	1218.0	1214.1	1214.3
25°	1200.6	1198.3	1195.9	1193.6	1191.1	1187.4	1182.3	1177.3	1172.3	1167.2	1167.8
27.5°	1152.5	1150.3	1148.1	1146.0	1143.9	1140.7	1136.8	1132.8	1128.8	1124.8	1124.0
30°	1120.2	1117.9	1115.5	1113.2	1110.8	1107.3	1102.9	1098.4	1093.9	1089.4	1088.5
32.5°	1086.0	1084.1	1082.2	1080.3	1078.3	1075.0	1070.4	1065.6	1061.0	1056.2	1054.6
35°	1035.8	1032.9	1029.9	1026.9	1023.9	1020.1	1015.3	1010.6	1005.7	1001.0	999.3
37.5°	979.3	976.6	974.0	971.4	968.9	965.1	960.4	955.6	950.8	946.0	943.8
40°	940.7	938.4	935.9	933.5	931.2	927.6	922.8	918.1	913.3	908.6	905.8
42.5°	903.2	900.8	898.4	896.1	893.6	890.1	885.3	880.6	875.8	871.0	868.1
45°	842.8	840.8	838.7	836.7	834.6	831.2	826.8	822.3	817.9	813.4	810.1
47.5°	782.8	780.9	778.9	777.0	775.0	771.6	767.0	762.3	757.7	753.1	749.6
50°	741.0	739.5	738.1	736.6	735.1	732.3	728.1	723.9	719.7	715.6	711.4
52.5°	700.3	698.3	696.4	694.4	692.5	689.5	685.6	681.7	677.7	673.8	670.3
55°	637.8	636.1	634.3	632.5	630.7	628.0	624.5	620.9	617.3	613.7	610.2
57.5°	575.1	573.7	572.3	570.9	569.5	566.7	562.8	558.9	554.9	551.0	547.5
60°	533.3	532.1	531.0	529.8	528.6	525.9	521.7	517.6	513.4	509.2	505.9
62.5°	492.6	490.7	488.8	486.9	484.9	482.4	479.2	475.9	472.7	469.6	466.6
65°	430.2	428.4	426.6	424.7	423.0	420.6	417.7	414.7	411.7	408.7	406.1
67.5°	366.7	365.2	363.8	362.3	360.9	358.9	356.2	353.5	350.8	348.1	346.1
70°	327.0	325.8	324.6	323.4	322.2	320.2	317.6	314.9	312.3	309.5	307.5
72.5°	286.2	285.1	283.9	282.7	281.4	280.0	278.3	276.6	274.8	273.1	271.0
75°	225.1	224.5	223.9	223.4	222.8	221.7	220.3	218.7	217.2	215.7	214.0
77.5°	170.5	169.5	168.4	167.4	166.4	165.6	165.0	164.4	163.8	163.2	162.3
80°	134.0	133.7	133.4	133.1	132.8	132.4	131.8	131.2	130.6	130.0	129.1
82.5°	99.7	99.7	99.6	99.5	99.5	99.3	98.9	98.6	98.2	97.9	96.6
85°	54.9	54.6	54.3	54.0	53.7	53.4	53.1	52.8	52.5	52.3	51.4
87.5°	19.4	19.3	19.3	19.0	18.8	18.7	18.8	19.1	19.3	18.9	18.1
90°	0.6	2.3	4.6	5.8	6.9	8.7	11.5	15.6	19.0	19.6	19.0
92.5°	7.1	10.1	14.2	16.9	20.7	26.2	39.2	57.5	73.8	74.8	63.2
95°	20.2	22.4	28.2	33.4	42.6	56.5	82.9	133.0	199.9	225.8	197.5
97.5°	32.8	36.0	42.0	49.9	60.5	76.1	109.5	179.3	290.2	385.4	404.2
100°	44.3	46.0	51.3	60.5	72.0	88.2	118.7	188.9	313.3	454.9	537.9
102.5°	54.9	56.2	61.4	70.6	82.6	98.7	126.9	189.3	304.6	457.3	587.6
105°	70.3	72.6	76.5	85.2	97.9	114.0	141.1	192.4	287.4	426.8	580.0
107.5°	86.8	88.7	92.6	100.6	113.1	129.4	155.6	200.3	278.8	394.0	529.4
110°	97.9	100.2	103.7	111.2	123.2	140.0	165.3	206.7	277.0	378.4	497.6



TEST NUMBER: P331392-840

CATALOG NUMBER: SA2XXDIP-C865D530U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	108.1	110.4	114.2	121.3	132.9	150.1	174.5	213.7	277.5	368.2	475.4
115°	123.8	126.7	130.2	137.0	148.6	164.1	188.9	224.0	279.9	357.1	448.1
117.5°	140.2	142.5	145.9	152.1	163.1	179.3	202.2	235.1	284.1	351.6	430.8
120°	150.3	152.6	156.0	161.3	172.8	188.9	211.4	242.5	286.8	348.4	421.6
122.5°	160.0	161.9	165.3	171.0	182.5	199.0	220.2	248.9	290.0	346.6	413.7
125°	172.8	174.5	177.9	184.9	196.4	212.5	233.3	259.1	294.9	343.3	402.5
127.5°	182.9	185.2	190.1	197.6	208.7	225.3	245.5	268.7	299.8	341.3	392.2
130°	188.9	191.2	196.9	205.0	216.5	232.7	252.9	274.7	303.5	340.3	385.3
132.5°	194.4	197.2	203.4	212.0	223.9	240.0	259.2	280.7	307.2	339.9	379.7
135°	202.7	205.0	212.0	220.6	233.8	249.9	268.4	288.5	311.5	339.2	372.0
137.5°	210.6	213.3	220.3	229.4	242.6	257.5	275.8	294.5	315.5	339.1	366.6
140°	216.5	218.8	225.8	235.0	247.6	262.7	279.9	297.7	317.3	338.6	363.5
142.5°	222.6	224.4	230.9	240.0	252.3	266.3	283.2	300.5	318.7	338.6	360.2
145°	231.6	233.8	239.5	248.2	259.7	272.4	287.9	304.1	320.2	337.5	355.9
147.5°	241.2	242.9	248.4	256.4	266.0	277.2	291.9	306.1	320.6	335.4	351.5
150°	247.6	249.3	254.0	261.5	270.1	280.4	293.7	307.0	320.2	334.1	347.9
152.5°	254.1	254.9	259.5	266.1	274.3	283.7	295.6	307.4	319.3	331.7	344.7
155°	263.2	263.8	267.2	273.6	279.9	288.5	298.3	308.1	317.9	327.7	338.6
157.5°	270.7	271.4	274.2	279.6	284.8	292.0	300.2	308.1	315.3	323.6	333.0
160°	275.9	276.4	278.7	283.4	287.9	294.3	301.2	308.1	313.9	320.8	328.8
162.5°	280.9	280.5	282.9	286.6	290.7	295.7	301.6	307.6	312.5	318.5	325.2
165°	286.8	286.2	287.4	290.8	293.7	297.2	302.4	306.4	309.8	313.9	319.0
167.5°	291.6	290.9	292.0	294.2	296.3	298.4	302.3	305.6	307.2	309.8	313.1
170°	294.9	293.7	294.3	296.0	297.2	298.9	301.7	304.7	305.8	307.5	309.8
172.5°	296.7	296.0	295.7	297.4	298.1	299.3	301.3	303.3	304.0	304.8	306.6
175°	298.9	298.3	297.7	298.9	298.9	299.4	300.6	301.7	301.2	301.7	302.4
177.5°	299.9	299.0	298.5	299.4	299.4	299.4	299.9	300.8	299.9	299.4	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4



TEST NUMBER: P331392-840

CATALOG NUMBER: SA2XXDIP-C865D530U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6
2.5°	1387.7	1390.1	1392.4	1393.4	1392.9	1392.4	1392.0	1391.5
5°	1378.3	1380.7	1383.1	1383.9	1383.4	1382.8	1382.2	1381.6
7.5°	1362.7	1365.1	1367.6	1368.4	1367.8	1367.1	1366.4	1365.7
10°	1348.8	1351.2	1353.6	1354.3	1353.4	1352.5	1351.6	1350.8
12.5°	1332.4	1334.0	1335.7	1336.3	1335.5	1334.9	1334.2	1333.6
15°	1303.5	1304.7	1306.0	1305.8	1304.3	1302.8	1301.3	1299.8
17.5°	1269.3	1270.7	1272.1	1272.0	1270.6	1269.2	1267.8	1266.4
20°	1242.6	1243.5	1244.5	1244.3	1243.1	1241.9	1240.7	1239.5
22.5°	1214.5	1214.6	1214.8	1214.6	1213.8	1213.0	1212.3	1211.6
25°	1168.4	1168.9	1169.5	1169.5	1168.9	1168.4	1167.8	1167.2
27.5°	1123.1	1122.2	1121.3	1120.1	1118.6	1117.2	1115.8	1114.4
30°	1087.6	1086.8	1085.9	1084.8	1083.7	1082.5	1081.3	1080.1
32.5°	1053.0	1051.4	1049.8	1048.3	1047.2	1046.0	1044.8	1043.6
35°	997.4	995.6	993.9	992.2	990.8	989.3	987.7	986.2
37.5°	941.7	939.5	937.3	935.4	934.0	932.6	931.2	929.7
40°	903.2	900.5	897.9	895.9	894.7	893.5	892.3	891.1
42.5°	865.2	862.2	859.4	857.1	855.4	853.7	852.0	850.4
45°	806.9	803.5	800.3	798.1	796.9	795.7	794.5	793.3
47.5°	746.2	742.8	739.3	736.7	735.0	733.3	731.5	729.8
50°	707.2	703.1	698.9	696.1	694.6	693.1	691.7	690.1
52.5°	666.8	663.4	659.9	657.2	655.3	653.3	651.4	649.3
55°	606.6	603.0	599.5	596.9	595.4	593.9	592.5	591.0
57.5°	544.0	540.5	536.9	534.6	533.5	532.4	531.3	530.1
60°	502.7	499.4	496.1	494.0	493.1	492.2	491.3	490.5
62.5°	463.4	460.4	457.4	455.3	454.1	453.0	451.9	450.8
65°	403.3	400.7	398.0	395.9	394.5	392.9	391.4	389.9
67.5°	344.0	341.8	339.8	338.2	337.0	335.8	334.6	333.4
70°	305.4	303.3	301.2	299.5	298.4	297.2	296.0	294.8
72.5°	268.9	266.8	264.8	263.3	262.3	261.4	260.3	259.4
75°	212.2	210.4	208.6	208.0	208.6	209.2	209.7	210.4
77.5°	161.5	160.6	159.7	158.8	157.9	157.1	156.3	155.4
80°	128.2	127.3	126.4	125.6	125.0	124.5	123.9	123.3
82.5°	95.5	94.4	93.3	92.7	92.5	92.4	92.3	92.2
85°	50.5	49.6	48.7	48.1	47.8	47.5	47.2	46.9
87.5°	17.3	16.4	15.9	15.5	15.2	15.0	14.7	14.5
90°	18.4	17.3	18.4	19.0	19.0	19.0	19.0	19.0
92.5°	50.2	43.1	38.3	34.6	34.2	32.4	32.8	31.9
95°	150.9	115.7	91.6	78.9	71.4	66.9	65.0	65.6
97.5°	352.1	288.1	225.8	184.2	156.6	142.5	134.1	129.3
100°	525.8	454.4	375.5	305.8	258.0	233.3	216.5	206.2
102.5°	639.6	623.5	565.8	491.9	440.0	397.7	376.9	362.8
105°	699.7	764.8	772.3	753.3	717.6	681.9	657.1	649.0
107.5°	656.4	754.5	814.4	842.2	846.7	844.8	839.8	829.1
110°	619.1	722.2	795.9	843.1	867.9	878.9	884.0	883.4





TEST NUMBER: P331392-840

CATALOG NUMBER: SA2XXDIP-C865D530U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	585.0	684.0	762.8	816.9	851.3	869.6	879.4	882.5
115°	543.1	631.8	707.2	766.6	807.4	833.9	848.9	854.0
117.5°	511.5	589.4	657.8	713.5	755.2	783.2	798.9	803.2
120°	495.8	567.2	628.3	680.8	721.0	748.1	764.8	770.5
122.5°	483.4	548.9	606.6	654.0	690.1	716.8	731.6	736.5
125°	465.3	524.6	575.3	618.5	652.0	673.8	688.2	692.9
127.5°	447.5	501.2	549.0	588.9	617.9	638.4	650.9	654.6
130°	436.0	485.5	531.0	569.0	597.2	616.8	628.3	632.9
132.5°	425.0	470.8	512.6	548.3	576.0	595.6	606.2	610.4
135°	409.5	447.5	485.5	517.8	542.5	561.5	571.9	574.2
137.5°	397.2	429.0	459.1	487.3	509.8	526.1	535.2	538.7
140°	389.3	417.0	443.4	468.8	487.3	502.2	510.8	514.3
142.5°	382.8	406.4	429.2	450.4	467.9	481.5	489.2	489.9
145°	373.8	392.7	410.6	427.4	441.1	450.9	456.7	458.4
147.5°	366.8	381.7	395.7	407.9	419.3	427.1	431.0	432.0
150°	361.6	374.4	386.5	396.8	405.5	412.3	415.8	416.4
152.5°	356.6	368.4	378.6	387.6	394.4	400.4	402.9	403.0
155°	349.6	358.8	367.4	373.8	380.1	384.2	386.5	385.3
157.5°	341.4	349.1	356.4	361.3	365.8	369.2	370.2	370.2
160°	336.3	342.6	349.0	353.0	357.1	359.9	360.5	360.5
162.5°	331.2	336.7	342.1	345.2	349.2	351.2	351.7	351.3
165°	323.7	327.7	331.7	334.1	336.3	338.6	338.6	338.1
167.5°	316.4	319.5	322.2	324.4	325.4	326.7	326.6	325.9
170°	312.8	314.5	316.8	317.9	318.5	320.2	319.6	318.5
172.5°	308.6	309.8	311.6	312.4	313.0	313.8	313.2	312.5
175°	304.1	304.7	305.3	305.8	305.8	306.4	305.8	304.7
177.5°	300.8	300.8	301.3	301.3	301.3	301.3	300.8	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4

(END OF REPORT)