

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: P332059-927

Luminaire Tested: **S123DIP-S1165D585U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332059-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1165D585U927-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5522.5 lumens  
Efficiency: N/A  
Efficacy: 100.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

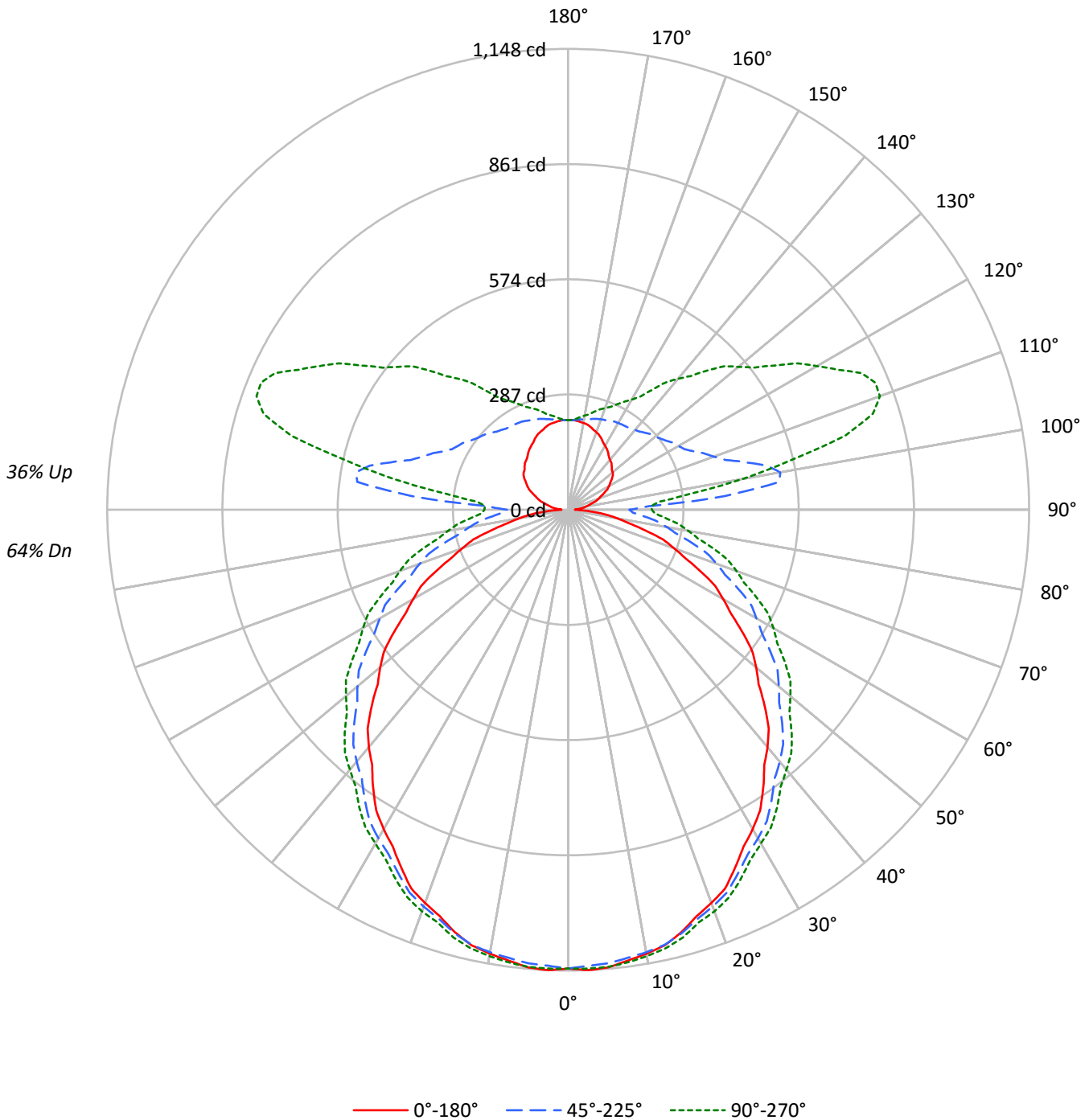
Input Watts (W): 55.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69
1	100	95	90	86	93	89	85	81	78	75	72	68	66	63	59	57	55
2	90	82	75	69	84	77	71	66	67	63	59	59	55	52	51	48	46
3	82	72	63	57	76	67	60	54	59	53	49	52	47	43	45	41	38
4	75	63	55	48	70	59	52	46	52	46	41	46	41	37	40	36	33
5	69	56	47	41	64	53	45	39	47	40	35	41	36	32	36	32	28
6	63	50	42	35	59	47	40	34	42	36	31	37	32	28	32	28	25
7	58	45	37	31	55	43	35	30	38	32	27	34	28	24	29	25	22
8	54	41	33	27	51	39	32	26	35	28	24	31	26	22	27	23	20
9	51	38	30	24	47	36	28	23	32	26	22	28	23	20	25	21	18
10	47	35	27	22	44	33	26	21	29	23	19	26	21	18	23	19	16

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

	0°	45°	90°
0°	12304	12304	12304
5°	12343	11994	12001
10°	12232	11718	11659
15°	12075	11405	11287
20°	11849	11047	10876
25°	11571	10634	10444
30°	11287	10264	10006
35°	10967	9871	9658
40°	10663	9514	9284
45°	10325	9172	8985
50°	9990	8832	8655
55°	9622	8486	8359
60°	9263	8134	8056
65°	8896	7758	7694
70°	8341	7336	7323
75°	7640	6853	6946
80°	6835	6380	6515
85°	6085	6053	6268



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.4	2.0
10°-20°	308.9	5.6
20°-30°	462.0	8.4
30°-40°	551.8	10.0
40°-50°	577.3	10.5
50°-60°	541.7	9.8
60°-70°	452.5	8.2
70°-80°	323.7	5.9
80°-90°	194.8	3.5
90°-100°	245.3	4.4
100°-110°	440.8	8.0
110°-120°	405.5	7.3
120°-130°	310.0	5.6
130°-140°	232.8	4.2
140°-150°	165.7	3.0
150°-160°	113.2	2.1
160°-170°	66.5	1.2
170°-180°	21.6	0.4
0°-30°	879.3	15.9
0°-40°	1431.1	25.9
0°-60°	2550.1	46.2
0°-90°	3521.1	63.8
90°-120°	1091.6	19.8
90°-150°	1800.0	32.6
90°-180°	2001.0	36.2
0°-180°	5522.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1144	1142	1134	1144	1143	108
15°	1090	1093	1092	1104	1103	307
25°	984	996	1000	1015	1016	453
35°	847	866	883	901	906	529
45°	692	722	753	776	787	534
55°	528	569	614	646	658	473
65°	365	414	468	504	518	360
75°	198	257	319	358	375	212
85°	61	124	189	230	244	64
90°	17	83	152	194	209	12
95°	29	113	391	239	227	27
105°	62	119	457	762	714	66
115°	99	138	344	704	805	98
125°	132	158	299	535	626	118
135°	153	182	271	423	490	119
145°	173	197	252	327	364	108
155°	196	211	244	278	290	90
165°	214	220	234	248	252	60
175°	223	223	225	228	227	21
180°	223	223	223	223	223	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1148.1	1147.5	1146.8	1146.1	1145.4	1144.2	1142.5	1140.7	1138.9	1137.2	1138.9
5°	1144.4	1143.8	1143.3	1142.7	1142.2	1141.1	1139.4	1137.7	1136.1	1134.4	1136.6
7.5°	1133.1	1133.3	1133.4	1133.5	1133.6	1132.9	1131.2	1129.7	1128.1	1126.4	1129.2
10°	1123.2	1123.8	1124.3	1124.9	1125.5	1125.0	1123.6	1122.2	1120.9	1119.4	1122.2
12.5°	1111.3	1112.0	1112.8	1113.6	1114.4	1114.3	1113.3	1112.4	1111.4	1110.5	1113.0
15°	1089.6	1090.4	1091.2	1092.1	1092.9	1093.2	1092.9	1092.7	1092.3	1092.1	1094.9
17.5°	1062.2	1063.8	1065.5	1067.1	1068.8	1069.6	1069.5	1069.4	1069.3	1069.1	1071.7
20°	1042.3	1043.9	1045.6	1047.3	1048.9	1050.0	1050.6	1051.1	1051.7	1052.3	1054.7
22.5°	1021.4	1023.0	1024.7	1026.4	1028.0	1029.2	1030.0	1030.8	1031.5	1032.3	1035.5
25°	983.7	986.5	989.3	992.0	994.8	996.6	997.4	998.2	999.1	999.9	1003.5
27.5°	945.9	949.0	952.2	955.4	958.5	961.0	962.7	964.5	966.3	968.0	971.1
30°	919.0	922.6	926.1	929.8	933.3	936.3	938.5	940.7	942.9	945.2	948.5
32.5°	889.1	893.1	897.1	901.2	905.2	908.7	911.6	914.5	917.3	920.2	923.8
35°	846.8	851.2	855.6	860.1	864.5	868.5	872.1	875.7	879.2	882.9	887.0
37.5°	801.9	806.9	811.9	816.9	821.9	826.6	831.0	835.4	839.9	844.3	849.0
40°	772.1	777.1	782.0	787.0	791.9	797.3	802.8	808.3	813.8	819.4	824.1
42.5°	739.2	745.3	751.4	757.4	763.5	769.4	775.2	780.9	786.7	792.5	797.6
45°	692.4	699.0	705.6	712.3	718.9	725.7	732.6	739.5	746.5	753.4	758.6
47.5°	643.3	650.8	658.3	665.9	673.4	681.1	689.0	697.0	704.9	712.8	718.7
50°	611.4	619.2	626.9	634.6	642.4	650.5	659.2	667.7	676.3	684.8	691.3
52.5°	577.6	585.7	593.9	602.1	610.3	619.2	628.6	638.0	647.5	657.0	663.6
55°	528.0	537.1	546.2	555.4	564.5	574.0	584.0	594.0	604.0	613.9	621.4
57.5°	479.7	489.2	498.7	508.2	517.8	528.0	538.8	549.8	560.6	571.6	579.1
60°	445.8	455.7	465.7	475.7	485.6	496.3	507.6	519.0	530.4	541.7	549.5
62.5°	413.9	424.1	434.3	444.5	454.6	465.7	477.8	489.7	501.8	513.8	521.5
65°	364.9	375.7	386.4	397.2	408.1	419.5	431.7	443.9	456.1	468.2	476.5
67.5°	315.1	326.5	337.9	349.4	360.8	372.8	385.2	397.6	410.0	422.4	431.4
70°	280.2	292.1	304.0	315.8	327.8	340.4	353.6	366.9	380.2	393.5	402.3
72.5°	248.3	260.2	272.1	284.0	295.9	308.7	322.4	336.1	349.9	363.6	372.7
75°	198.0	211.0	224.0	237.0	250.0	263.4	277.3	291.1	304.9	318.8	327.9
77.5°	154.2	167.3	180.4	193.5	206.6	220.1	234.1	248.0	262.0	275.9	285.6
80°	123.3	136.8	150.4	164.0	177.5	191.5	205.9	220.3	234.6	249.1	258.5
82.5°	96.4	110.2	124.0	137.8	151.5	165.7	180.3	195.0	209.5	224.1	233.5
85°	61.0	74.9	88.7	102.5	116.4	130.6	145.3	159.9	174.6	189.3	198.7
87.5°	33.3	47.3	61.2	75.3	89.3	103.4	117.7	132.1	146.6	160.9	170.2
90°	17.1	31.5	46.0	60.9	75.4	90.2	105.6	121.0	136.6	152.0	161.0
92.5°	20.8	35.7	51.7	67.5	83.6	103.3	129.0	162.3	195.3	202.2	194.3
95°	29.1	41.2	57.0	75.4	98.0	127.8	179.7	260.6	348.3	391.3	349.2
97.5°	38.4	48.6	62.3	78.7	100.0	130.4	180.0	268.9	405.4	529.6	566.8
100°	44.7	53.9	66.0	81.1	100.8	129.3	173.6	253.3	384.8	536.2	633.3
102.5°	51.3	60.0	70.8	84.8	102.4	128.9	169.8	239.0	357.4	506.8	630.7
105°	62.3	70.3	79.7	91.8	107.0	130.3	166.6	225.1	322.3	456.7	594.1
107.5°	73.0	80.0	88.2	99.3	112.9	134.4	167.1	217.1	297.2	411.6	536.8
110°	80.6	87.0	94.3	104.2	116.8	137.5	169.0	214.4	286.0	386.0	501.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	88.6	94.1	100.4	109.5	121.3	140.9	170.4	212.9	276.8	366.3	468.7
115°	98.9	104.0	110.0	117.9	128.9	147.7	174.8	212.4	268.4	343.9	428.6
117.5°	110.1	114.2	118.5	124.7	135.4	152.3	178.7	212.6	261.1	326.5	400.7
120°	117.0	119.8	123.4	129.3	139.3	155.8	181.3	213.9	257.8	317.5	385.3
122.5°	123.9	126.0	129.0	134.6	143.5	160.3	184.8	215.2	255.8	310.0	371.9
125°	132.5	133.4	136.1	141.1	149.6	165.9	189.7	217.6	252.8	299.2	353.4
127.5°	140.0	141.1	144.2	148.9	158.1	173.6	195.4	220.0	251.0	290.1	336.1
130°	144.7	145.8	149.6	154.7	163.9	178.8	199.2	221.9	250.0	284.1	325.9
132.5°	147.3	149.0	153.4	159.8	169.2	183.3	202.2	223.5	248.3	278.7	316.0
135°	153.4	155.0	159.6	166.1	175.3	188.9	206.0	224.3	245.5	270.7	302.3
137.5°	159.1	160.8	165.5	172.5	181.6	193.7	208.9	225.2	243.0	263.7	290.4
140°	162.1	164.4	168.9	176.1	185.1	196.9	210.8	225.1	241.4	259.4	283.0
142.5°	166.4	168.1	172.8	179.0	187.9	198.4	211.4	224.7	239.2	254.7	275.6
145°	173.4	174.4	178.2	184.7	192.2	202.4	214.2	226.4	239.0	252.5	269.3
147.5°	179.2	180.0	184.0	189.9	197.3	206.1	216.9	227.8	239.0	250.9	263.9
150°	183.9	184.3	188.0	193.8	200.2	208.3	218.7	228.1	239.0	249.4	260.7
152.5°	188.6	188.7	192.3	197.5	203.0	210.8	219.8	228.9	238.0	247.6	257.9
155°	195.7	195.7	198.4	202.9	207.9	214.2	221.9	229.1	236.8	244.5	253.5
157.5°	201.2	201.6	203.7	207.8	212.0	216.9	223.0	229.6	235.2	241.6	248.6
160°	205.6	205.6	207.4	211.0	214.2	218.7	224.1	229.6	234.5	239.5	245.3
162.5°	208.8	208.8	210.3	213.2	215.9	219.8	224.5	229.2	233.1	237.3	242.1
165°	213.7	213.3	214.2	216.4	218.2	221.4	225.0	228.1	230.9	234.1	237.7
167.5°	217.5	216.9	217.3	219.0	220.3	222.3	224.9	227.4	228.7	230.8	233.5
170°	219.6	218.7	219.1	220.5	221.4	222.3	224.6	226.4	227.3	228.6	230.9
172.5°	221.0	220.5	220.6	221.6	222.1	222.7	224.6	226.0	226.2	226.8	228.4
175°	222.8	222.3	221.9	222.8	222.8	223.2	224.1	225.0	224.6	224.6	225.5
177.5°	223.6	223.2	222.8	223.2	223.2	223.2	223.6	224.3	223.6	223.2	223.6
180°	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1140.7	1142.5	1144.2	1145.0	1144.8	1144.5	1144.3	1144.1
5°	1138.8	1141.1	1143.3	1144.2	1144.0	1143.7	1143.4	1143.1
7.5°	1131.9	1134.7	1137.5	1138.8	1138.4	1138.0	1137.7	1137.4
10°	1125.0	1127.8	1130.5	1131.6	1131.1	1130.5	1130.0	1129.4
12.5°	1115.6	1118.2	1120.7	1121.7	1121.1	1120.5	1120.0	1119.4
15°	1097.6	1100.3	1103.1	1104.4	1104.1	1103.8	1103.6	1103.3
17.5°	1074.1	1076.7	1079.1	1080.1	1079.8	1079.4	1079.0	1078.6
20°	1057.2	1059.7	1062.2	1063.6	1063.8	1064.1	1064.4	1064.7
22.5°	1038.6	1041.8	1044.9	1046.4	1046.2	1046.1	1045.9	1045.8
25°	1007.1	1010.7	1014.3	1016.1	1016.1	1016.1	1016.1	1016.1
27.5°	974.2	977.3	980.4	982.1	982.3	982.5	982.8	983.0
30°	951.8	955.1	958.4	960.0	960.0	960.0	960.0	960.0
32.5°	927.3	930.9	934.4	936.5	937.2	937.9	938.5	939.1
35°	891.2	895.3	899.4	902.1	903.2	904.4	905.5	906.5
37.5°	853.7	858.4	863.1	865.9	866.8	867.7	868.5	869.4
40°	828.8	833.5	838.2	841.1	842.2	843.3	844.4	845.5
42.5°	802.8	807.9	813.1	816.4	817.9	819.5	821.0	822.6
45°	763.9	769.1	774.4	778.2	780.4	782.6	784.8	787.0
47.5°	724.6	730.6	736.5	740.3	742.0	743.7	745.4	747.1
50°	697.6	704.0	710.3	714.5	716.4	718.4	720.3	722.2
52.5°	670.2	676.8	683.3	687.9	690.2	692.6	695.0	697.4
55°	628.8	636.3	643.8	648.6	650.9	653.1	655.3	657.5
57.5°	586.6	594.1	601.7	606.7	609.3	612.0	614.6	617.1
60°	557.1	564.9	572.7	578.1	581.1	584.2	587.2	590.3
62.5°	529.3	537.0	544.8	550.1	552.9	555.7	558.6	561.3
65°	484.8	493.1	501.5	506.9	509.7	512.5	515.2	518.0
67.5°	440.5	449.6	458.7	464.4	466.8	469.1	471.3	473.7
70°	411.2	420.1	428.9	434.7	437.5	440.3	443.0	445.8
72.5°	381.8	390.9	399.9	405.8	408.6	411.4	414.2	416.9
75°	337.1	346.2	355.3	361.6	364.9	368.2	371.5	374.8
77.5°	295.2	304.8	314.5	320.5	323.1	325.7	328.2	330.7
80°	267.8	277.3	286.7	292.8	295.6	298.3	301.1	303.8
82.5°	243.0	252.4	261.7	267.8	270.6	273.4	276.2	278.9
85°	208.1	217.5	226.9	233.0	235.8	238.5	241.3	244.1
87.5°	179.7	189.3	198.7	205.0	207.6	210.5	213.4	216.0
90°	170.8	180.7	190.5	197.6	199.9	203.0	206.3	208.6
92.5°	189.2	190.5	196.1	199.6	201.4	202.6	205.6	207.3
95°	303.1	259.3	243.9	233.3	227.5	226.2	225.8	226.7
97.5°	536.3	463.8	413.8	365.3	334.7	317.1	307.7	306.6
100°	657.1	628.5	583.7	524.9	482.0	451.9	437.0	440.2
102.5°	693.0	699.6	676.6	641.2	608.5	585.1	573.1	565.5
105°	696.2	749.2	765.6	758.9	740.6	726.0	714.0	714.2
107.5°	651.3	732.1	779.1	800.1	802.9	799.5	797.1	795.4
110°	611.9	702.2	766.4	802.7	817.5	823.4	824.7	826.0





TEST NUMBER: P332059-927

CATALOG NUMBER: S123DIP-S1165D585U927-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	571.9	663.8	734.5	779.9	805.5	819.1	825.0	827.6
115°	519.0	604.2	677.2	730.9	767.0	789.1	800.3	804.9
117.5°	477.8	552.3	618.5	672.9	710.3	735.3	750.4	755.7
120°	455.4	522.8	583.4	633.2	670.8	698.0	710.8	715.4
122.5°	436.7	498.0	554.4	600.8	634.5	659.2	673.0	678.4
125°	410.7	465.7	514.9	554.9	585.8	607.6	620.8	626.0
127.5°	387.0	436.4	481.0	517.6	545.3	564.1	576.2	581.0
130°	371.9	417.7	459.6	493.8	519.4	537.3	548.5	553.7
132.5°	357.4	399.8	438.9	471.7	496.1	514.2	524.5	528.9
135°	337.5	374.6	409.0	437.9	461.4	476.4	485.9	490.4
137.5°	319.2	349.9	379.6	404.8	424.8	439.9	448.2	451.6
140°	308.3	335.6	361.4	383.6	402.1	416.1	424.8	425.7
142.5°	297.3	320.8	343.3	362.7	378.8	391.4	399.3	400.2
145°	285.9	303.0	319.7	334.5	346.9	357.5	362.2	364.2
147.5°	276.8	289.3	301.6	311.7	321.3	328.8	333.2	334.5
150°	271.1	281.5	291.0	299.8	307.2	312.7	316.0	316.6
152.5°	267.1	276.1	284.5	291.7	297.1	301.8	303.6	303.6
155°	261.2	268.4	275.2	280.6	284.6	288.3	289.1	289.6
157.5°	254.8	260.9	266.2	270.4	273.9	276.6	277.3	277.3
160°	251.2	256.2	260.7	263.9	267.0	269.7	269.7	269.3
162.5°	246.9	251.1	255.3	258.1	260.2	262.5	262.5	262.1
165°	241.3	244.0	247.2	249.4	251.2	253.0	252.5	252.5
167.5°	236.4	238.4	240.3	241.9	242.7	244.0	243.5	243.5
170°	233.1	234.5	236.3	237.2	237.7	238.6	238.1	238.1
172.5°	230.3	231.2	232.7	233.2	233.3	234.2	233.5	233.1
175°	226.4	226.8	227.8	227.8	227.8	228.1	227.8	227.3
177.5°	223.9	224.3	224.7	224.7	224.3	224.7	223.9	223.9
180°	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2

(END OF REPORT)