

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: P332068-930

Luminaire Tested: **S123DIP-S1165D805U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332068-930  
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-S1165D805U930-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6325.0 lumens  
Efficiency: N/A  
Efficacy: 104.2 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: General Diffuse

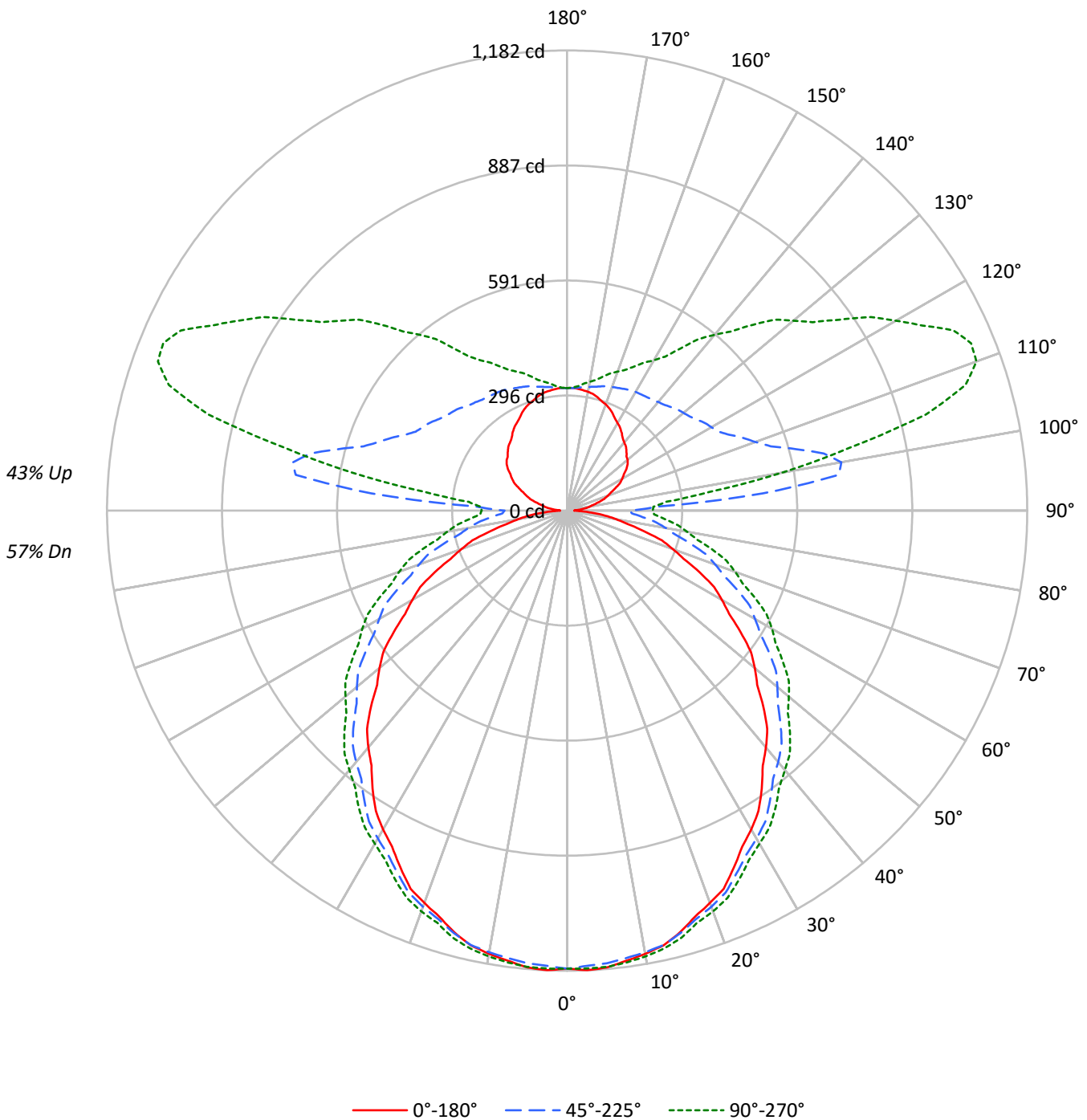
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57
1	98	93	89	85	91	87	83	80	75	72	69	64	62	60	54	52	51	46
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	44	42	37
3	81	71	63	56	75	66	59	53	57	51	47	49	44	41	41	38	35	31
4	74	62	54	47	68	58	51	45	50	44	40	43	38	35	36	33	30	26
5	68	55	47	40	63	52	44	38	45	39	34	39	34	30	33	29	26	23
6	62	50	41	35	58	46	39	33	40	34	30	35	30	26	29	26	23	20
7	58	45	36	31	53	42	34	29	37	30	26	32	27	23	27	23	20	17
8	53	41	33	27	50	38	31	26	33	27	23	29	24	20	25	21	18	16
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14
10	46	34	27	22	43	32	25	21	28	22	19	25	20	17	21	17	15	13

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

	0°	45°	90°
0°	12664	12664	12664
5°	12703	12344	12352
10°	12589	12060	12000
15°	12427	11738	11616
20°	12195	11369	11194
25°	11908	10944	10750
30°	11616	10563	10299
35°	11287	10159	9939
40°	10973	9792	9555
45°	10626	9438	9247
50°	10281	9090	8908
55°	9903	8734	8603
60°	9533	8371	8291
65°	9155	7984	7918
70°	8585	7551	7537
75°	7860	7053	7148
80°	7035	6564	6706
85°	6264	6229	6450



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.5	1.8
10°-20°	317.9	5.0
20°-30°	475.5	7.5
30°-40°	567.9	9.0
40°-50°	594.1	9.4
50°-60°	557.5	8.8
60°-70°	465.7	7.4
70°-80°	333.2	5.3
80°-90°	201.1	3.2
90°-100°	299.9	4.7
100°-110°	587.8	9.3
110°-120°	549.3	8.7
120°-130°	424.3	6.7
130°-140°	322.7	5.1
140°-150°	232.5	3.7
150°-160°	159.7	2.5
160°-170°	93.8	1.5
170°-180°	30.5	0.5
0°-30°	905.0	14.3
0°-40°	1472.8	23.3
0°-60°	2624.5	41.5
0°-90°	3624.5	57.3
90°-120°	1437.0	22.7
90°-150°	2416.5	38.2
90°-180°	2701.0	42.7
0°-180°	6325.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1176	1176	1176	1176	1176	
5°	1178	1175	1168	1177	1176	112
15°	1121	1125	1124	1136	1136	316
25°	1012	1025	1029	1045	1046	466
35°	872	892	909	927	933	545
45°	713	743	775	799	810	549
55°	543	586	632	665	677	486
65°	376	426	482	519	533	371
75°	204	264	328	369	386	218
85°	63	127	195	237	251	66
90°	18	87	161	204	220	13
95°	36	135	505	275	253	34
105°	84	152	609	1027	954	89
115°	137	186	460	957	1095	136
125°	186	220	407	730	854	165
135°	216	256	376	583	675	166
145°	244	278	356	458	508	153
155°	276	298	345	392	408	127
165°	302	310	330	350	356	85
175°	314	315	317	321	321	30
180°	315	315	315	315	315	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1181.6	1181.0	1180.2	1179.6	1178.8	1177.6	1175.8	1173.9	1172.2	1170.4	1172.2
5°	1177.8	1177.2	1176.6	1176.1	1175.5	1174.4	1172.6	1170.9	1169.2	1167.5	1169.8
7.5°	1166.2	1166.4	1166.4	1166.6	1166.7	1166.0	1164.2	1162.6	1161.0	1159.3	1162.1
10°	1156.0	1156.6	1157.2	1157.7	1158.3	1157.8	1156.4	1155.0	1153.6	1152.1	1155.0
12.5°	1143.7	1144.4	1145.3	1146.1	1146.9	1146.8	1145.8	1144.8	1143.9	1142.9	1145.5
15°	1121.4	1122.3	1123.1	1124.0	1124.8	1125.1	1124.8	1124.5	1124.2	1124.0	1126.8
17.5°	1093.2	1094.9	1096.6	1098.3	1100.0	1100.8	1100.7	1100.6	1100.5	1100.3	1102.9
20°	1072.7	1074.4	1076.1	1077.8	1079.5	1080.7	1081.2	1081.8	1082.4	1083.0	1085.5
22.5°	1051.2	1052.9	1054.6	1056.3	1058.0	1059.2	1060.1	1060.9	1061.6	1062.4	1065.7
25°	1012.4	1015.3	1018.1	1021.0	1023.9	1025.6	1026.5	1027.4	1028.3	1029.1	1032.8
27.5°	973.5	976.7	980.0	983.3	986.4	989.0	990.8	992.6	994.5	996.3	999.5
30°	945.8	949.5	953.2	956.9	960.6	963.6	965.9	968.2	970.5	972.7	976.2
32.5°	915.0	919.2	923.3	927.5	931.6	935.2	938.2	941.2	944.1	947.1	950.7
35°	871.5	876.0	880.6	885.2	889.7	893.8	897.6	901.2	904.9	908.7	912.9
37.5°	825.3	830.5	835.6	840.7	845.9	850.7	855.2	859.8	864.4	868.9	873.8
40°	794.6	799.7	804.9	809.9	815.1	820.5	826.2	831.8	837.6	843.3	848.2
42.5°	760.8	767.0	773.3	779.5	785.8	791.9	797.9	803.7	809.7	815.6	820.9
45°	712.6	719.4	726.2	733.0	739.9	746.9	754.0	761.1	768.3	775.3	780.7
47.5°	662.0	669.8	677.5	685.3	693.1	701.0	709.1	717.3	725.5	733.6	739.6
50°	629.2	637.2	645.2	653.1	661.1	669.5	678.4	687.2	696.0	704.8	711.4
52.5°	594.4	602.8	611.2	619.7	628.1	637.2	646.9	656.6	666.4	676.1	683.0
55°	543.4	552.8	562.1	571.6	581.0	590.8	601.0	611.3	621.6	631.9	639.5
57.5°	493.7	503.4	513.2	523.0	532.9	543.4	554.6	565.8	577.0	588.2	596.0
60°	458.8	469.0	479.3	489.6	499.8	510.8	522.4	534.1	545.8	557.5	565.5
62.5°	426.0	436.5	446.9	457.5	467.9	479.3	491.7	504.0	516.4	528.8	536.7
65°	375.5	386.6	397.7	408.8	420.0	431.8	444.3	456.8	469.4	481.8	490.4
67.5°	324.2	336.1	347.8	359.6	371.4	383.7	396.4	409.2	421.9	434.7	444.0
70°	288.4	300.6	312.8	325.1	337.4	350.3	363.9	377.6	391.3	405.0	414.1
72.5°	255.5	267.8	280.1	292.3	304.5	317.7	331.8	345.9	360.1	374.2	383.6
75°	203.7	217.2	230.6	243.9	257.3	271.1	285.4	299.6	313.8	328.1	337.5
77.5°	158.7	172.2	185.6	199.2	212.6	226.6	240.9	255.3	269.6	284.0	293.9
80°	126.9	140.8	154.8	168.8	182.7	197.1	211.9	226.7	241.5	256.3	266.0
82.5°	99.2	113.4	127.6	141.8	155.9	170.6	185.6	200.6	215.6	230.6	240.4
85°	62.8	77.0	91.3	105.5	119.8	134.4	149.5	164.6	179.7	194.8	204.5
87.5°	34.3	48.8	63.2	77.8	92.2	106.8	121.7	136.6	151.6	166.5	176.0
90°	17.9	33.2	48.4	64.2	79.5	95.0	111.5	127.9	144.3	160.8	169.8
92.5°	23.6	39.9	57.9	75.4	93.4	116.3	147.2	189.0	230.2	234.6	220.0
95°	35.8	48.8	66.9	88.9	116.5	153.9	222.1	331.0	449.5	504.8	442.3
97.5°	49.6	60.2	75.7	95.1	121.5	160.0	225.2	345.6	533.2	703.4	752.8
100°	58.7	68.5	82.0	100.0	124.5	160.5	218.2	325.6	506.4	715.1	849.0
102.5°	68.4	77.7	89.9	106.5	128.5	161.8	214.7	307.7	469.9	675.8	847.7
105°	84.2	92.9	103.6	118.1	137.1	166.3	213.0	290.9	423.6	608.6	799.5
107.5°	99.7	107.5	117.0	130.3	147.5	174.6	216.4	282.5	391.3	548.4	722.1
110°	111.0	118.0	126.3	138.4	154.4	180.5	220.6	280.4	377.2	514.2	673.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	122.1	128.3	135.7	146.9	162.0	186.9	224.5	280.3	366.4	488.7	630.3
115°	137.1	143.1	150.3	160.0	174.3	198.4	232.8	282.0	357.3	459.9	577.1
117.5°	153.0	158.1	163.4	171.3	185.6	207.3	240.9	285.3	350.1	438.7	540.9
120°	163.2	166.6	171.1	179.0	192.5	213.9	246.1	288.7	347.2	428.0	521.2
122.5°	172.9	175.5	179.4	187.1	199.4	221.3	252.6	292.1	346.1	419.3	504.2
125°	185.5	186.8	190.6	197.6	209.7	231.1	261.6	297.9	344.5	406.9	481.1
127.5°	196.1	197.7	202.1	209.0	222.1	242.6	271.0	303.0	344.3	396.9	459.7
130°	202.7	204.3	209.8	217.2	230.2	250.2	276.9	306.8	344.4	390.3	447.3
132.5°	206.8	209.1	215.3	224.5	237.8	256.7	281.8	310.1	343.5	384.6	435.3
135°	215.5	217.7	224.5	233.7	246.8	265.5	288.4	313.2	341.8	376.2	418.9
137.5°	223.6	226.1	232.7	242.7	255.8	272.4	293.2	315.6	340.1	368.6	404.6
140°	228.2	231.4	237.7	247.9	260.7	277.0	296.4	316.4	338.9	364.0	395.7
142.5°	234.3	236.8	243.4	252.4	264.9	279.8	297.9	316.7	337.0	358.9	387.0
145°	244.1	245.7	251.2	260.5	271.0	285.6	302.1	319.4	337.2	356.3	379.0
147.5°	252.8	254.0	259.6	267.8	278.3	290.8	306.0	321.4	337.2	353.9	372.0
150°	259.4	260.1	265.1	273.5	282.3	293.8	308.5	321.9	337.2	351.9	367.8
152.5°	266.0	266.2	271.3	278.6	286.4	297.4	310.1	322.9	335.7	349.3	363.7
155°	276.0	276.0	279.8	286.2	293.2	302.1	313.0	323.2	334.0	344.9	357.6
157.5°	283.9	284.4	287.5	293.1	299.1	306.0	314.6	323.8	331.8	340.9	350.7
160°	290.0	290.0	292.6	297.7	302.1	308.5	316.2	323.8	330.8	337.9	346.1
162.5°	294.6	294.6	296.7	300.8	304.7	310.1	316.7	323.3	328.8	334.8	341.5
165°	301.5	300.8	302.1	305.3	307.9	312.3	317.4	321.9	325.7	330.2	335.3
167.5°	306.7	306.0	306.6	309.0	310.8	313.6	317.3	320.9	322.7	325.6	329.3
170°	309.8	308.5	309.2	311.0	312.3	313.6	316.8	319.4	320.7	322.5	325.7
172.5°	311.9	311.0	311.2	312.6	313.3	314.1	316.8	318.9	319.1	320.0	322.1
175°	314.2	313.6	313.0	314.2	314.2	314.9	316.2	317.4	316.8	316.8	318.0
177.5°	315.4	314.9	314.4	314.9	314.9	314.9	315.4	316.4	315.4	314.9	315.4
180°	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1173.9	1175.8	1177.6	1178.4	1178.2	1177.9	1177.7	1177.5
5°	1172.1	1174.4	1176.6	1177.6	1177.4	1177.0	1176.8	1176.5
7.5°	1165.0	1167.8	1170.7	1172.0	1171.6	1171.3	1170.9	1170.6
10°	1157.8	1160.7	1163.5	1164.7	1164.1	1163.5	1162.9	1162.4
12.5°	1148.2	1150.8	1153.4	1154.4	1153.8	1153.2	1152.7	1152.1
15°	1129.6	1132.5	1135.3	1136.6	1136.4	1136.0	1135.8	1135.5
17.5°	1105.5	1108.1	1110.6	1111.7	1111.3	1110.9	1110.5	1110.1
20°	1088.0	1090.6	1093.2	1094.6	1094.9	1095.2	1095.4	1095.8
22.5°	1068.9	1072.2	1075.4	1076.9	1076.8	1076.6	1076.4	1076.3
25°	1036.5	1040.2	1043.9	1045.8	1045.8	1045.8	1045.8	1045.8
27.5°	1002.7	1005.8	1009.0	1010.7	1011.0	1011.2	1011.5	1011.7
30°	979.6	983.0	986.3	988.1	988.1	988.1	988.1	988.1
32.5°	954.4	958.1	961.6	963.8	964.5	965.2	965.9	966.5
35°	917.2	921.5	925.7	928.5	929.6	930.7	931.9	932.9
37.5°	878.6	883.5	888.3	891.1	892.1	893.0	893.9	894.8
40°	853.0	857.8	862.7	865.6	866.7	867.9	869.0	870.2
42.5°	826.2	831.5	836.8	840.2	841.8	843.4	845.0	846.6
45°	786.2	791.6	797.0	800.9	803.2	805.4	807.7	809.9
47.5°	745.8	751.9	758.0	761.9	763.6	765.4	767.2	768.9
50°	718.0	724.6	731.1	735.3	737.4	739.3	741.4	743.3
52.5°	689.7	696.5	703.3	707.9	710.4	712.8	715.3	717.7
55°	647.2	654.8	662.6	667.6	669.8	672.1	674.4	676.7
57.5°	603.7	611.5	619.2	624.4	627.1	629.8	632.5	635.1
60°	573.4	581.4	589.4	594.9	598.1	601.2	604.3	607.5
62.5°	544.7	552.7	560.7	566.1	569.0	571.9	574.9	577.7
65°	499.0	507.5	516.1	521.7	524.6	527.4	530.3	533.1
67.5°	453.4	462.8	472.1	477.9	480.4	482.7	485.1	487.5
70°	423.2	432.4	441.4	447.4	450.3	453.1	455.9	458.8
72.5°	392.9	402.3	411.6	417.7	420.5	423.4	426.2	429.1
75°	346.9	356.3	365.7	372.1	375.5	379.0	382.4	385.7
77.5°	303.8	313.7	323.7	329.9	332.6	335.2	337.8	340.4
80°	275.7	285.4	295.1	301.3	304.2	307.0	309.9	312.7
82.5°	250.1	259.8	269.4	275.7	278.5	281.4	284.2	287.1
85°	214.2	223.9	233.5	239.8	242.6	245.5	248.3	251.2
87.5°	185.8	195.7	205.5	212.0	214.7	217.7	220.6	223.4
90°	180.1	190.5	200.7	208.3	210.5	214.0	217.5	219.7
92.5°	209.2	207.6	212.1	214.7	216.2	217.0	220.2	221.7
95°	374.0	308.9	284.0	266.8	257.6	254.7	253.1	253.4
97.5°	706.6	601.3	527.6	457.0	412.8	386.9	372.6	370.0
100°	879.5	836.2	769.8	684.9	623.4	579.7	557.7	561.2
102.5°	932.6	939.0	903.5	851.6	804.4	770.4	752.4	740.6
105°	940.7	1012.4	1032.5	1021.2	994.4	972.8	955.0	954.3
107.5°	880.8	992.0	1055.4	1083.2	1086.2	1080.6	1076.2	1072.9
110°	827.3	952.0	1039.8	1089.2	1109.3	1116.7	1117.7	1118.7





TEST NUMBER: P332068-930

CATALOG NUMBER: S123DIP-S1165D805U930-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	773.3	900.3	997.4	1059.6	1094.8	1113.1	1120.5	1123.2
115°	701.8	819.5	920.1	994.1	1044.2	1074.6	1089.6	1095.0
117.5°	647.2	749.7	840.7	915.7	967.7	1002.1	1022.6	1029.2
120°	617.7	710.3	793.3	861.9	914.3	952.0	969.3	975.1
122.5°	593.2	677.4	754.6	818.6	865.3	899.4	918.3	925.1
125°	559.7	635.2	702.4	757.3	800.1	830.1	848.1	854.5
127.5°	529.5	597.0	657.9	708.0	746.3	772.3	788.6	794.6
130°	510.1	572.8	629.9	676.8	712.2	736.9	752.0	758.9
132.5°	491.7	549.7	602.9	647.8	681.5	706.4	720.2	725.7
135°	466.8	517.1	563.7	603.2	635.9	656.5	669.4	675.2
137.5°	443.6	485.3	525.5	559.9	587.6	608.4	619.5	623.9
140°	429.9	466.7	501.6	531.8	557.4	576.7	588.3	589.1
142.5°	416.2	447.9	478.3	504.8	526.8	544.0	554.6	555.5
145°	401.7	425.0	447.7	467.8	484.9	499.5	505.6	508.1
147.5°	390.0	407.3	424.4	438.5	451.6	461.6	467.5	469.0
150°	382.5	397.1	410.5	422.9	433.0	440.6	445.0	445.6
152.5°	376.8	389.5	401.3	411.5	419.1	425.7	428.1	428.2
155°	368.4	378.6	388.2	395.8	401.5	406.7	408.0	408.5
157.5°	359.5	368.0	375.4	381.4	386.4	390.2	391.3	391.1
160°	354.4	361.4	367.8	372.3	376.7	380.5	380.5	379.9
162.5°	348.3	354.2	360.1	364.1	367.0	370.3	370.3	369.7
165°	340.4	344.2	348.7	351.9	354.4	356.9	356.3	356.3
167.5°	333.5	336.4	339.0	341.3	342.4	344.2	343.6	343.6
170°	328.9	330.8	333.4	334.7	335.3	336.6	335.9	335.9
172.5°	324.8	326.2	328.2	329.1	329.1	330.4	329.3	328.8
175°	319.4	320.0	321.2	321.2	321.2	321.9	321.2	320.7
177.5°	315.9	316.4	316.9	316.9	316.4	316.9	315.9	315.9
180°	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9

(END OF REPORT)