

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: P332005-840

Luminaire Tested: **S123DIP-S1000D365U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332005-840
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-S1000D365U840-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5567.7 lumens
Efficiency: N/A
Efficacy: 128.0 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

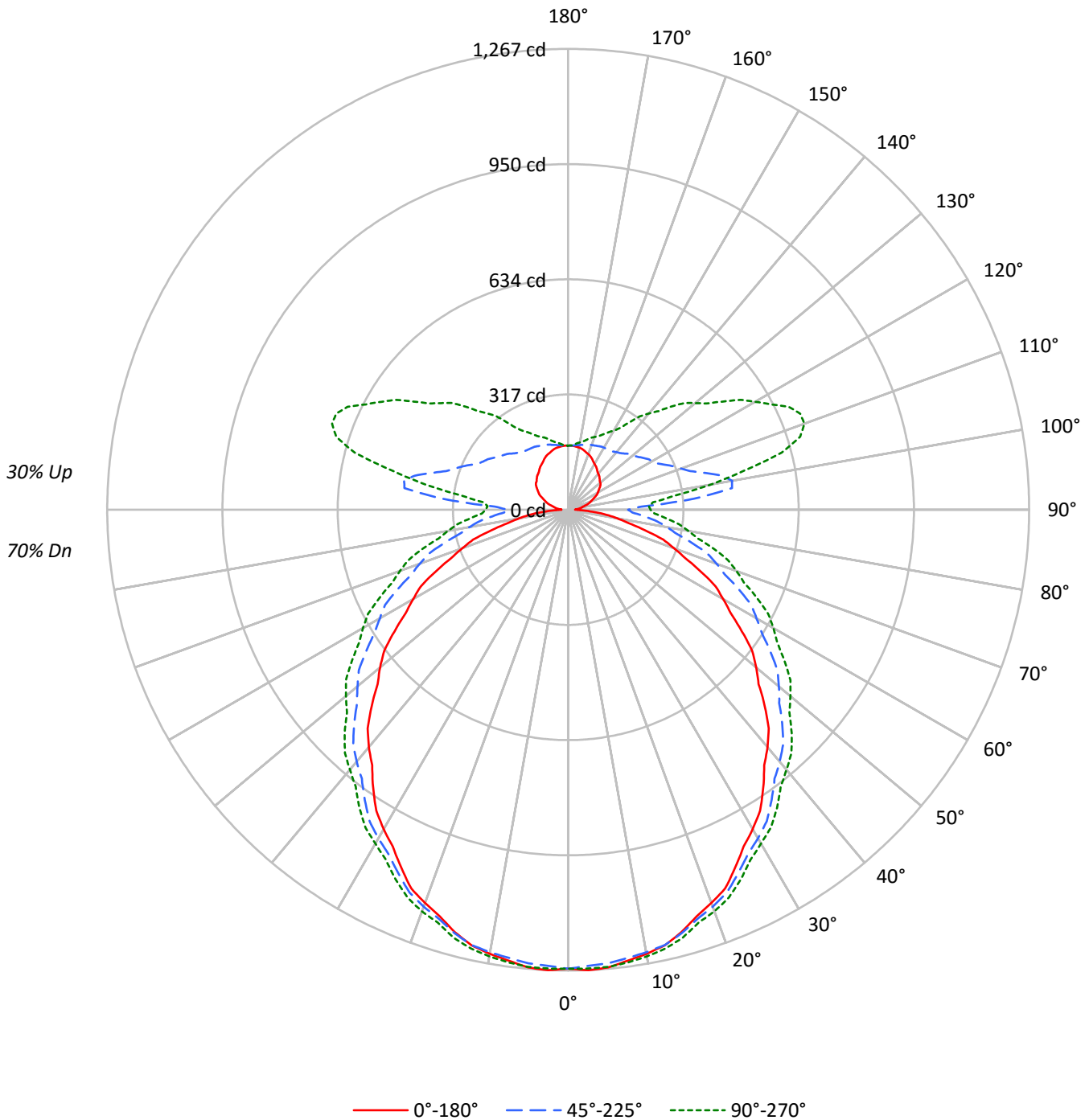
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	70
1	101	96	91	87	95	90	86	83	81	77	75	72	69	67	63	62	60	56
2	91	83	76	70	86	78	72	67	70	65	61	62	58	55	55	52	49	46
3	83	72	64	58	78	68	61	55	61	55	50	54	50	46	48	45	41	38
4	76	64	55	48	71	60	53	46	54	48	43	48	43	39	43	39	35	32
5	69	57	48	41	65	54	46	40	48	42	37	43	38	34	38	34	31	28
6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	30	27	24
7	59	46	37	31	56	44	36	30	39	33	28	36	30	26	32	27	24	21
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	29	25	21	19
9	51	38	30	25	48	36	29	24	33	27	22	30	25	21	27	22	19	17
10	48	35	27	22	45	34	26	22	31	24	20	28	22	19	25	21	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13581	13581	13581
5°	13623	13239	13246
10°	13501	12935	12870
15°	13327	12588	12458
20°	13078	12192	12005
25°	12772	11738	11529
30°	12457	11328	11046
35°	12104	10895	10660
40°	11767	10501	10247
45°	11396	10122	9918
50°	11028	9750	9554
55°	10621	9366	9226
60°	10225	8977	8892
65°	9818	8564	8493
70°	9204	8097	8084
75°	8432	7563	7667
80°	7539	7041	7193
85°	6723	6680	6917



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.6	2.1
10°-20°	341.0	6.1
20°-30°	510.0	9.2
30°-40°	609.0	10.9
40°-50°	637.2	11.4
50°-60°	598.0	10.7
60°-70°	499.4	9.0
70°-80°	357.3	6.4
80°-90°	214.4	3.9
90°-100°	231.8	4.2
100°-110°	376.1	6.8
110°-120°	338.9	6.1
120°-130°	255.5	4.6
130°-140°	188.7	3.4
140°-150°	131.9	2.4
150°-160°	89.4	1.6
160°-170°	52.5	0.9
170°-180°	17.1	0.3
0°-30°	970.6	17.4
0°-40°	1579.6	28.4
0°-60°	2814.7	50.6
0°-90°	3885.9	69.8
90°-120°	946.7	17.0
90°-150°	1522.8	27.4
90°-180°	1682.0	30.2
0°-180°	5567.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1262	1262	1262	1262	1262	
5°	1263	1260	1252	1262	1262	120
15°	1203	1206	1205	1218	1218	339
25°	1086	1099	1104	1121	1122	500
35°	935	956	974	994	1001	584
45°	764	797	832	857	869	589
55°	583	628	678	713	726	522
65°	403	457	517	556	572	398
75°	218	283	352	396	414	233
85°	67	136	209	254	269	71
90°	19	90	164	210	226	13
95°	27	109	348	239	234	25
105°	52	107	390	642	608	55
115°	80	116	292	586	669	80
125°	106	126	249	443	518	94
135°	122	145	218	346	401	94
145°	137	156	199	261	292	86
155°	154	167	193	219	229	71
165°	169	174	185	196	199	48
175°	176	176	177	180	180	17
180°	176	176	176	176	176	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1267.3	1266.6	1265.8	1265.1	1264.4	1262.9	1261.0	1259.1	1257.1	1255.2	1257.1
5°	1263.1	1262.5	1261.9	1261.3	1260.7	1259.5	1257.7	1255.8	1253.9	1252.1	1254.6
7.5°	1250.7	1250.9	1251.0	1251.1	1251.2	1250.4	1248.7	1246.9	1245.1	1243.3	1246.4
10°	1239.8	1240.4	1241.0	1241.6	1242.2	1241.7	1240.2	1238.7	1237.2	1235.7	1238.7
12.5°	1226.6	1227.4	1228.3	1229.1	1230.0	1229.9	1228.9	1227.8	1226.8	1225.8	1228.6
15°	1202.6	1203.6	1204.5	1205.4	1206.3	1206.6	1206.3	1206.0	1205.7	1205.4	1208.5
17.5°	1172.5	1174.3	1176.1	1177.9	1179.7	1180.6	1180.5	1180.3	1180.2	1180.1	1182.9
20°	1150.4	1152.3	1154.1	1155.9	1157.7	1159.0	1159.6	1160.2	1160.8	1161.4	1164.2
22.5°	1127.3	1129.1	1131.0	1132.9	1134.7	1136.0	1136.9	1137.7	1138.6	1139.4	1142.9
25°	1085.8	1088.8	1092.0	1095.0	1098.0	1100.0	1101.0	1101.9	1102.8	1103.7	1107.6
27.5°	1044.0	1047.5	1051.0	1054.5	1057.9	1060.7	1062.7	1064.6	1066.5	1068.5	1072.0
30°	1014.3	1018.3	1022.3	1026.2	1030.3	1033.4	1035.9	1038.3	1040.8	1043.2	1046.9
32.5°	981.4	985.8	990.3	994.7	999.2	1003.0	1006.2	1009.4	1012.6	1015.7	1019.7
35°	934.6	939.5	944.4	949.3	954.2	958.6	962.6	966.5	970.5	974.5	979.1
37.5°	885.1	890.7	896.2	901.6	907.2	912.3	917.3	922.1	927.0	931.9	937.1
40°	852.1	857.7	863.1	868.7	874.1	880.0	886.1	892.2	898.3	904.4	909.6
42.5°	815.9	822.6	829.3	836.1	842.7	849.3	855.7	862.0	868.4	874.7	880.4
45°	764.2	771.5	778.9	786.2	793.6	801.0	808.6	816.3	823.9	831.5	837.4
47.5°	710.0	718.3	726.7	735.0	743.3	751.8	760.5	769.3	778.0	786.8	793.2
50°	674.9	683.4	692.0	700.5	709.0	718.1	727.5	737.0	746.5	756.0	763.0
52.5°	637.4	646.5	655.6	664.6	673.7	683.4	693.9	704.3	714.7	725.2	732.5
55°	582.8	592.9	602.9	613.0	623.1	633.6	644.6	655.6	666.6	677.6	685.9
57.5°	529.5	540.0	550.5	561.0	571.5	582.8	594.8	606.8	618.8	630.9	639.1
60°	492.1	503.0	514.0	525.0	536.0	547.8	560.3	572.9	585.4	597.9	606.4
62.5°	456.9	468.1	479.4	490.6	501.8	514.1	527.4	540.6	553.8	567.1	575.6
65°	402.7	414.7	426.6	438.5	450.4	463.0	476.5	489.9	503.3	516.8	525.9
67.5°	347.7	360.4	373.0	385.7	398.3	411.5	425.2	438.9	452.5	466.3	476.3
70°	309.2	322.3	335.5	348.7	361.8	375.7	390.3	405.1	419.7	434.3	444.1
72.5°	274.1	287.2	300.3	313.5	326.6	340.7	355.9	371.0	386.2	401.3	411.3
75°	218.5	232.9	247.2	261.7	276.0	290.7	306.1	321.3	336.6	351.8	361.9
77.5°	170.2	184.6	199.1	213.6	228.0	243.0	258.4	273.8	289.2	304.6	315.2
80°	136.0	151.1	166.0	181.0	195.9	211.4	227.2	243.2	259.0	274.9	285.3
82.5°	106.3	121.6	136.8	152.0	167.2	182.9	199.0	215.1	231.3	247.4	257.8
85°	67.4	82.6	97.9	113.2	128.5	144.2	160.4	176.5	192.7	208.9	219.3
87.5°	36.7	52.0	67.5	82.8	98.2	113.7	129.6	145.3	161.1	176.9	187.2
90°	18.6	34.2	50.0	65.9	81.7	97.7	114.3	131.0	147.5	164.2	174.3
92.5°	21.2	36.9	53.3	69.6	86.1	105.8	130.5	161.2	191.6	201.4	198.0
95°	27.3	40.2	56.0	74.0	95.2	122.6	167.9	236.0	309.5	347.7	317.2
97.5°	34.1	45.2	59.1	75.1	95.0	122.6	165.9	240.1	351.9	454.1	486.1
100°	38.8	48.9	61.2	75.9	94.3	120.1	159.2	226.0	334.0	457.6	536.6
102.5°	43.6	53.1	64.1	77.7	94.1	118.3	154.4	213.1	310.4	432.4	532.7
105°	52.4	60.8	70.3	81.9	96.0	117.2	149.7	199.5	280.1	390.0	501.0
107.5°	60.3	67.6	75.9	86.3	99.0	118.6	147.9	191.0	257.8	351.7	452.9
110°	66.0	72.6	79.9	89.4	100.9	119.8	148.0	187.3	247.4	329.9	423.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	72.3	78.0	84.2	92.7	103.3	121.1	147.7	184.6	238.4	312.5	395.5
115°	80.0	85.1	90.9	98.2	107.9	124.8	149.5	182.2	229.5	292.4	361.4
117.5°	88.9	92.7	96.7	102.3	111.4	126.5	150.3	180.1	221.3	275.9	336.5
120°	94.0	96.6	99.9	105.0	113.3	128.1	151.0	179.6	217.1	267.2	322.8
122.5°	99.5	101.3	103.9	108.6	115.8	130.5	152.7	179.4	214.2	259.7	310.4
125°	105.8	106.5	108.7	112.6	119.4	133.5	154.8	179.4	209.6	248.8	293.5
127.5°	111.8	112.5	114.8	118.6	125.7	138.9	158.2	179.8	206.3	239.3	277.4
130°	115.4	116.2	119.2	123.1	130.3	142.8	160.8	180.4	204.4	233.0	267.6
132.5°	117.2	118.6	122.0	127.0	134.4	146.2	162.6	180.8	201.8	227.1	258.2
135°	122.0	123.1	126.6	131.7	139.0	150.1	164.5	180.0	197.6	218.4	245.0
137.5°	126.3	127.6	131.3	136.7	143.9	153.6	166.1	179.7	194.2	211.1	233.6
140°	128.5	130.2	133.8	139.5	146.6	156.0	167.2	178.8	192.0	206.4	226.3
142.5°	131.9	133.1	136.7	141.6	148.5	156.8	167.0	177.6	189.1	201.5	219.1
145°	137.3	138.1	141.0	146.0	151.8	159.9	169.2	178.7	188.7	199.4	213.4
147.5°	141.6	142.2	145.3	150.0	155.8	162.8	171.3	180.0	188.7	198.1	208.6
150°	145.2	145.6	148.5	153.1	158.0	164.5	172.7	180.3	188.7	197.0	205.9
152.5°	149.0	149.1	151.9	155.9	160.4	166.5	173.6	180.8	187.9	195.6	203.6
155°	154.5	154.5	156.6	160.3	164.2	169.2	175.2	181.0	187.0	193.1	200.2
157.5°	159.0	159.3	161.0	164.1	167.4	171.3	176.1	181.3	185.8	190.9	196.3
160°	162.4	162.4	163.8	166.6	169.2	172.7	177.0	181.3	185.2	189.1	193.8
162.5°	164.9	164.9	166.1	168.3	170.6	173.6	177.3	181.0	184.1	187.4	191.2
165°	168.7	168.4	169.2	171.0	172.4	174.9	177.7	180.3	182.4	184.9	187.7
167.5°	171.7	171.3	171.7	173.0	174.0	175.6	177.6	179.7	180.7	182.3	184.4
170°	173.4	172.7	173.1	174.1	174.9	175.6	177.3	178.7	179.6	180.6	182.4
172.5°	174.6	174.1	174.2	175.0	175.4	175.8	177.3	178.5	178.6	179.2	180.4
175°	175.9	175.6	175.2	175.9	175.9	176.3	177.0	177.7	177.3	177.3	178.0
177.5°	176.6	176.3	176.0	176.3	176.3	176.3	176.6	177.1	176.6	176.3	176.6
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1259.1	1261.0	1262.9	1263.8	1263.5	1263.3	1263.1	1262.8
5°	1257.0	1259.5	1261.9	1262.9	1262.6	1262.3	1262.0	1261.7
7.5°	1249.4	1252.5	1255.6	1256.9	1256.6	1256.2	1255.8	1255.5
10°	1241.7	1244.8	1247.9	1249.1	1248.5	1247.9	1247.3	1246.7
12.5°	1231.3	1234.2	1237.0	1238.1	1237.5	1236.9	1236.3	1235.7
15°	1211.5	1214.6	1217.6	1219.0	1218.7	1218.4	1218.1	1217.8
17.5°	1185.6	1188.4	1191.1	1192.2	1191.8	1191.4	1191.0	1190.5
20°	1166.9	1169.6	1172.5	1174.0	1174.3	1174.6	1174.9	1175.2
22.5°	1146.4	1149.8	1153.4	1155.0	1154.8	1154.7	1154.5	1154.3
25°	1111.7	1115.6	1119.5	1121.6	1121.6	1121.6	1121.6	1121.6
27.5°	1075.3	1078.7	1082.2	1084.0	1084.3	1084.5	1084.8	1085.0
30°	1050.6	1054.2	1057.8	1059.8	1059.8	1059.8	1059.8	1059.8
32.5°	1023.6	1027.4	1031.4	1033.7	1034.4	1035.1	1035.9	1036.6
35°	983.6	988.3	992.8	995.7	996.9	998.2	999.4	1000.6
37.5°	942.3	947.5	952.7	955.7	956.7	957.7	958.7	959.7
40°	914.7	920.0	925.1	928.4	929.6	930.8	932.0	933.2
42.5°	886.1	891.7	897.5	901.1	902.8	904.5	906.3	908.0
45°	843.1	849.0	854.7	858.9	861.3	863.7	866.3	868.7
47.5°	799.8	806.4	812.8	817.1	819.0	820.9	822.7	824.7
50°	770.0	777.0	784.1	788.6	790.8	792.9	795.1	797.2
52.5°	739.7	747.0	754.3	759.2	761.8	764.5	767.1	769.7
55°	694.1	702.4	710.6	715.9	718.4	720.8	723.3	725.7
57.5°	647.5	655.8	664.1	669.7	672.6	675.4	678.3	681.2
60°	615.0	623.6	632.1	638.0	641.5	644.8	648.1	651.5
62.5°	584.2	592.8	601.3	607.1	610.3	613.4	616.5	619.7
65°	535.1	544.3	553.4	559.6	562.6	565.6	568.8	571.8
67.5°	486.3	496.2	506.2	512.6	515.1	517.8	520.3	522.8
70°	453.8	463.6	473.4	479.9	482.9	485.9	489.0	492.1
72.5°	421.4	431.4	441.4	448.0	451.0	454.0	457.2	460.2
75°	372.0	382.1	392.1	399.1	402.7	406.4	410.0	413.7
77.5°	325.9	336.5	347.1	353.9	356.6	359.4	362.2	365.1
80°	295.7	306.1	316.4	323.2	326.2	329.2	332.3	335.4
82.5°	268.2	278.5	288.9	295.7	298.7	301.7	304.8	307.9
85°	229.6	240.0	250.4	257.2	260.2	263.3	266.3	269.4
87.5°	197.6	208.1	218.5	225.4	228.4	231.6	234.7	237.6
90°	185.0	195.7	206.5	213.9	216.6	220.0	223.5	226.1
92.5°	196.8	200.8	208.1	212.8	214.9	216.6	219.8	222.0
95°	283.5	251.6	242.1	235.5	231.8	231.7	232.2	233.8
97.5°	464.6	410.0	373.0	336.5	313.2	300.1	293.6	293.6
100°	558.1	538.0	505.1	460.4	427.4	404.3	393.5	397.0
102.5°	584.3	592.1	576.3	550.1	525.0	507.5	498.9	493.7
105°	584.1	628.3	643.7	640.1	626.4	615.6	606.9	607.8
107.5°	545.6	611.8	651.3	669.3	672.4	670.4	669.3	668.7
110°	512.8	586.4	639.3	669.5	682.0	687.2	688.9	690.6



TEST NUMBER: P332005-840

CATALOG NUMBER: S123DIP-S1000D365U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	479.2	554.0	612.1	649.3	670.3	681.9	687.3	690.1
115°	434.7	504.1	563.9	607.7	636.9	655.1	664.7	668.9
117.5°	399.5	460.4	514.7	559.1	589.4	609.8	622.4	627.2
120°	380.1	435.4	485.1	525.8	556.1	578.2	589.0	593.2
122.5°	363.6	413.9	460.4	498.4	525.5	545.6	557.2	562.1
125°	340.5	385.9	426.5	459.3	484.3	502.1	513.2	517.9
127.5°	319.2	360.0	397.0	427.0	449.4	464.9	475.0	479.4
130°	305.6	343.5	378.2	406.3	427.1	441.7	451.0	455.8
132.5°	292.5	327.6	360.0	387.0	406.8	421.7	430.4	434.5
135°	274.5	305.3	334.0	357.8	376.9	389.1	397.0	401.0
137.5°	257.7	283.3	308.1	328.9	345.2	357.5	364.5	367.7
140°	247.7	270.4	292.2	310.6	325.7	337.2	344.5	345.6
142.5°	237.4	257.2	276.1	292.3	305.4	315.8	322.4	323.6
145°	227.2	241.5	255.3	267.5	277.6	286.3	290.4	292.4
147.5°	219.0	229.1	239.0	247.3	255.2	261.4	265.2	266.5
150°	214.1	222.4	229.8	236.9	242.9	247.4	250.1	250.7
152.5°	211.0	218.0	224.7	230.4	234.7	238.4	239.8	240.0
155°	206.3	212.0	217.3	221.6	224.8	227.7	228.4	228.7
157.5°	201.3	206.0	210.2	213.6	216.3	218.4	219.0	218.9
160°	198.4	202.4	205.9	208.4	210.9	213.1	213.1	212.7
162.5°	195.0	198.3	201.7	203.9	205.5	207.3	207.3	207.0
165°	190.6	192.7	195.2	197.0	198.4	199.9	199.4	199.4
167.5°	186.7	188.3	189.8	191.1	191.7	192.7	192.4	192.4
170°	184.1	185.2	186.6	187.3	187.7	188.4	188.0	188.0
172.5°	181.9	182.7	183.8	184.2	184.3	185.0	184.4	184.1
175°	178.7	179.2	179.9	179.9	179.9	180.3	179.9	179.6
177.5°	176.8	177.1	177.4	177.4	177.1	177.4	176.8	176.8
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3

(END OF REPORT)