

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: P332004-840

Luminaire Tested: **S123DIP-S1000D365U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332004-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
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-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5500.1 lumens
Efficiency: N/A
Efficacy: 126.4 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

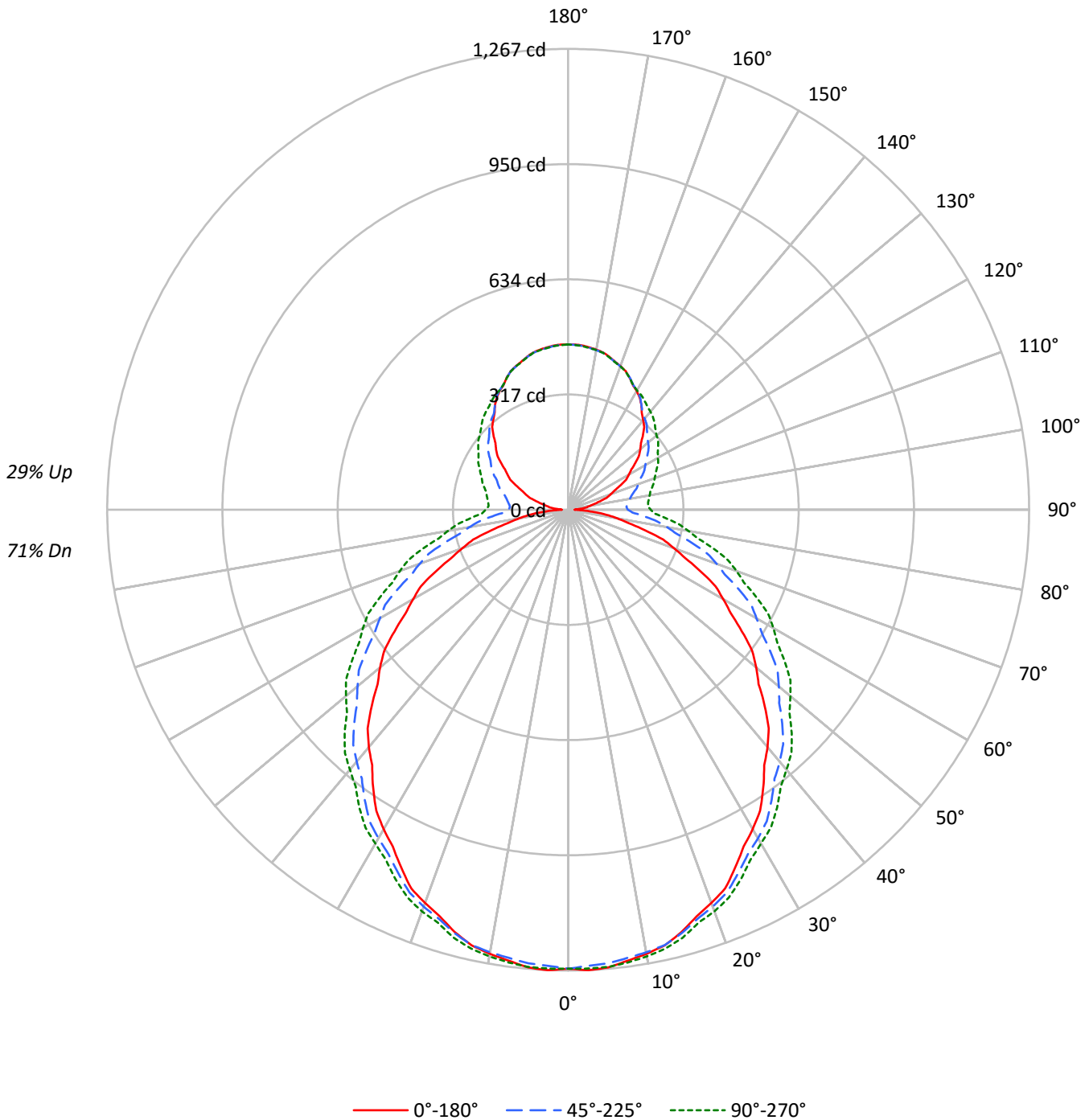
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	75	75	75	75	75	75	71		
1	101	96	91	87	95	91	87	83	81	78	75	72	70	67	64	62	60	64	62	60	64	62	60	56		
2	91	83	76	70	86	78	72	67	70	65	61	63	59	55	56	53	50	56	53	50	56	53	50	46		
3	83	72	64	58	78	69	61	55	61	56	51	55	50	46	49	45	42	49	45	42	49	45	42	38		
4	76	64	55	49	71	61	53	47	54	48	43	49	43	39	43	39	36	43	39	36	43	39	36	33		
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	34	31	39	34	31	39	34	31	28		
6	64	51	42	36	60	49	40	35	44	37	32	39	34	30	35	31	27	35	31	27	35	31	27	24		
7	59	46	38	32	56	44	36	30	40	33	28	36	30	26	32	27	24	32	27	24	32	27	24	22		
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	29	25	21	29	25	21	29	25	21	19		
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	27	23	19	27	23	19	17		
10	48	35	28	22	45	34	27	22	31	25	20	28	23	19	25	21	17	25	21	17	25	21	17	16		

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	2.2
10°-20°	341.0	6.2
20°-30°	510.0	9.3
30°-40°	609.0	11.1
40°-50°	637.2	11.6
50°-60°	598.0	10.9
60°-70°	499.4	9.1
70°-80°	357.3	6.5
80°-90°	214.4	3.9
90°-100°	163.3	3.0
100°-110°	186.8	3.4
110°-120°	216.3	3.9
120°-130°	235.7	4.3
130°-140°	239.6	4.4
140°-150°	222.6	4.0
150°-160°	184.4	3.4
160°-170°	122.7	2.2
170°-180°	43.0	0.8
0°-30°	970.6	17.6
0°-40°	1579.6	28.7
0°-60°	2814.7	51.2
0°-90°	3885.9	70.7
90°-120°	566.4	10.3
90°-150°	1264.2	23.0
90°-180°	1614.0	29.3
0°-180°	5500.1	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°	18	89	164	210	226	13
95°	36	93	162	205	220	35
105°	91	127	187	224	239	97
115°	158	178	225	257	269	157
125°	226	229	266	293	302	202
135°	291	292	306	329	336	224
145°	351	350	351	361	366	219
155°	400	400	400	402	399	184
165°	436	435	435	437	434	123
175°	453	452	452	454	451	43
180°	454	454	454	454	454	



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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	67.4	82.7	98.2	113.7	129.5	145.2	161.1	176.8	187.2
90°	18.2	34.0	49.8	65.5	81.3	97.5	114.0	130.7	147.2	163.9	174.6
92.5°	25.4	39.5	53.5	67.6	81.6	96.5	112.5	128.4	144.3	160.3	170.6
95°	36.2	48.7	61.1	73.6	86.0	100.1	115.6	131.3	146.8	162.5	172.3
97.5°	50.9	62.0	73.2	84.3	95.5	108.5	123.2	137.9	152.8	167.5	176.9
100°	60.9	71.2	81.4	91.7	101.9	114.2	128.7	143.1	157.6	172.1	181.2
102.5°	72.6	81.7	90.8	99.9	109.0	120.7	135.0	149.4	163.7	178.0	186.8
105°	91.3	98.8	106.2	113.7	121.3	131.9	145.7	159.7	173.5	187.3	195.8
107.5°	111.6	118.0	124.3	130.6	136.9	146.4	159.3	172.0	184.7	197.4	205.9
110°	124.2	129.9	135.5	141.2	146.8	155.9	168.2	180.7	193.0	205.4	213.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	138.6	143.1	147.7	152.4	156.9	165.1	176.9	188.6	200.5	212.2	220.3
115°	158.5	162.5	166.3	170.3	174.2	181.6	192.4	203.2	214.0	224.9	232.3
117.5°	179.9	182.3	184.7	187.1	189.5	195.8	205.9	216.0	226.1	236.2	243.5
120°	192.2	194.2	196.1	198.1	200.2	206.0	215.7	225.4	235.1	244.7	251.7
122.5°	206.1	207.3	208.4	209.5	210.7	216.0	225.4	234.7	244.1	253.5	260.0
125°	226.1	226.3	226.6	226.8	227.0	231.6	240.2	248.9	257.6	266.3	272.5
127.5°	245.8	246.0	246.2	246.4	246.6	250.2	257.4	264.6	271.8	278.9	284.5
130°	258.9	259.2	259.6	259.9	260.2	263.4	269.2	275.1	280.9	286.8	292.4
132.5°	270.9	271.6	272.2	272.7	273.3	275.9	280.6	285.3	290.0	294.8	299.9
135°	290.7	290.9	291.0	291.2	291.4	293.2	296.4	299.7	303.0	306.3	311.4
137.5°	309.0	309.2	309.3	309.5	309.6	310.7	312.9	315.0	317.1	319.1	323.7
140°	320.7	321.1	321.5	321.9	322.3	323.1	324.1	325.1	326.1	327.0	331.5
142.5°	332.4	332.6	332.8	333.0	333.1	333.4	333.7	334.0	334.3	334.7	338.6
145°	350.7	350.6	350.4	350.3	350.1	350.2	350.4	350.7	350.9	351.1	353.6
147.5°	365.4	365.7	366.0	366.3	366.5	366.8	367.0	367.2	367.4	367.7	368.4
150°	376.5	376.7	376.8	377.0	377.2	377.3	377.5	377.6	377.8	377.9	377.9
152.5°	385.7	385.9	386.1	386.3	386.6	386.7	386.8	386.9	387.0	387.1	387.2
155°	400.1	400.1	400.1	400.1	400.1	400.1	400.2	400.2	400.3	400.4	400.7
157.5°	412.3	412.2	412.1	412.0	411.9	411.9	412.0	412.0	412.1	412.2	412.5
160°	420.0	419.9	419.7	419.6	419.4	419.3	419.3	419.3	419.3	419.3	419.7
162.5°	426.9	426.7	426.5	426.3	426.0	426.0	426.0	426.1	426.2	426.2	426.6
165°	435.8	435.6	435.3	435.0	434.7	434.6	434.6	434.6	434.6	434.6	435.2
167.5°	442.8	442.5	442.2	441.8	441.5	441.4	441.5	441.5	441.6	441.7	442.1
170°	446.8	446.5	446.2	445.9	445.6	445.4	445.4	445.4	445.4	445.4	446.0
172.5°	450.0	449.6	449.3	449.0	448.7	448.5	448.5	448.5	448.5	448.5	449.0
175°	453.2	452.9	452.6	452.3	452.0	451.8	451.8	451.8	451.8	451.8	452.3
177.5°	454.5	454.3	454.0	453.8	453.5	453.4	453.4	453.4	453.4	453.4	453.8
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



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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°	197.7	208.1	218.6	225.4	228.4	231.6	234.6	237.7
90°	185.3	196.0	206.7	213.7	216.8	220.0	223.3	226.5
92.5°	181.0	191.4	201.8	208.3	211.1	213.8	216.5	219.2
95°	182.1	191.9	201.7	208.0	211.1	214.2	217.2	220.3
97.5°	186.4	195.9	205.4	211.6	214.6	217.6	220.7	223.7
100°	190.3	199.3	208.4	214.6	217.8	221.0	224.2	227.4
102.5°	195.7	204.6	213.4	219.3	222.4	225.4	228.4	231.5
105°	204.4	213.0	221.6	227.2	230.1	233.1	236.0	238.8
107.5°	214.3	222.8	231.3	236.7	239.3	242.0	244.5	247.1
110°	221.9	230.1	238.4	243.7	246.0	248.2	250.5	252.9



TEST NUMBER: P332004-840

CATALOG NUMBER: S123DIP-S1000D365U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	228.3	236.4	244.5	249.8	252.6	255.2	257.8	260.5
115°	239.7	247.1	254.5	259.4	261.8	264.2	266.5	268.8
117.5°	250.7	258.0	265.3	269.9	272.2	274.3	276.4	278.6
120°	258.6	265.6	272.6	277.0	278.9	280.9	283.0	284.9
122.5°	266.7	273.3	279.8	284.1	286.0	287.9	289.8	291.8
125°	278.5	284.6	290.7	294.7	296.5	298.3	300.1	301.9
127.5°	290.1	295.7	301.3	305.0	306.7	308.4	310.1	311.8
130°	297.8	303.3	308.8	312.1	313.5	314.7	316.0	317.3
132.5°	305.1	310.3	315.5	318.9	320.5	322.1	323.9	325.5
135°	316.6	321.8	327.0	330.2	331.6	333.1	334.4	335.8
137.5°	328.1	332.6	337.1	340.0	341.2	342.4	343.7	344.9
140°	336.1	340.5	345.1	347.8	348.8	349.7	350.7	351.6
142.5°	342.6	346.7	350.7	353.3	354.4	355.5	356.6	357.6
145°	355.9	358.3	360.6	362.2	363.1	364.1	365.0	365.9
147.5°	369.1	369.8	370.6	371.2	371.9	372.5	373.1	373.8
150°	377.9	377.9	377.9	378.0	378.1	378.3	378.4	378.5
152.5°	387.3	387.5	387.6	387.5	387.2	386.9	386.6	386.4
155°	401.0	401.3	401.7	401.5	401.0	400.4	399.9	399.3
157.5°	412.8	413.2	413.5	413.4	413.0	412.6	412.1	411.7
160°	420.1	420.5	420.9	420.9	420.6	420.3	420.0	419.7
162.5°	427.0	427.4	427.8	427.7	427.2	426.7	426.2	425.7
165°	435.7	436.1	436.6	436.6	436.0	435.5	434.8	434.3
167.5°	442.6	443.1	443.6	443.6	443.1	442.6	442.1	441.7
170°	446.5	447.1	447.6	447.6	447.1	446.5	446.0	445.4
172.5°	449.5	450.0	450.5	450.5	449.9	449.4	448.8	448.3
175°	452.7	453.2	453.7	453.6	453.1	452.5	452.0	451.4
177.5°	454.2	454.5	454.9	454.9	454.5	454.0	453.6	453.1
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3

(END OF REPORT)