

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: P332049-935

Luminaire Tested: **S123DIP-S1165D365U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332049-935
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-S1165D365U935-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 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: 5249.4 lumens
Efficiency: N/A
Efficacy: 105.4 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

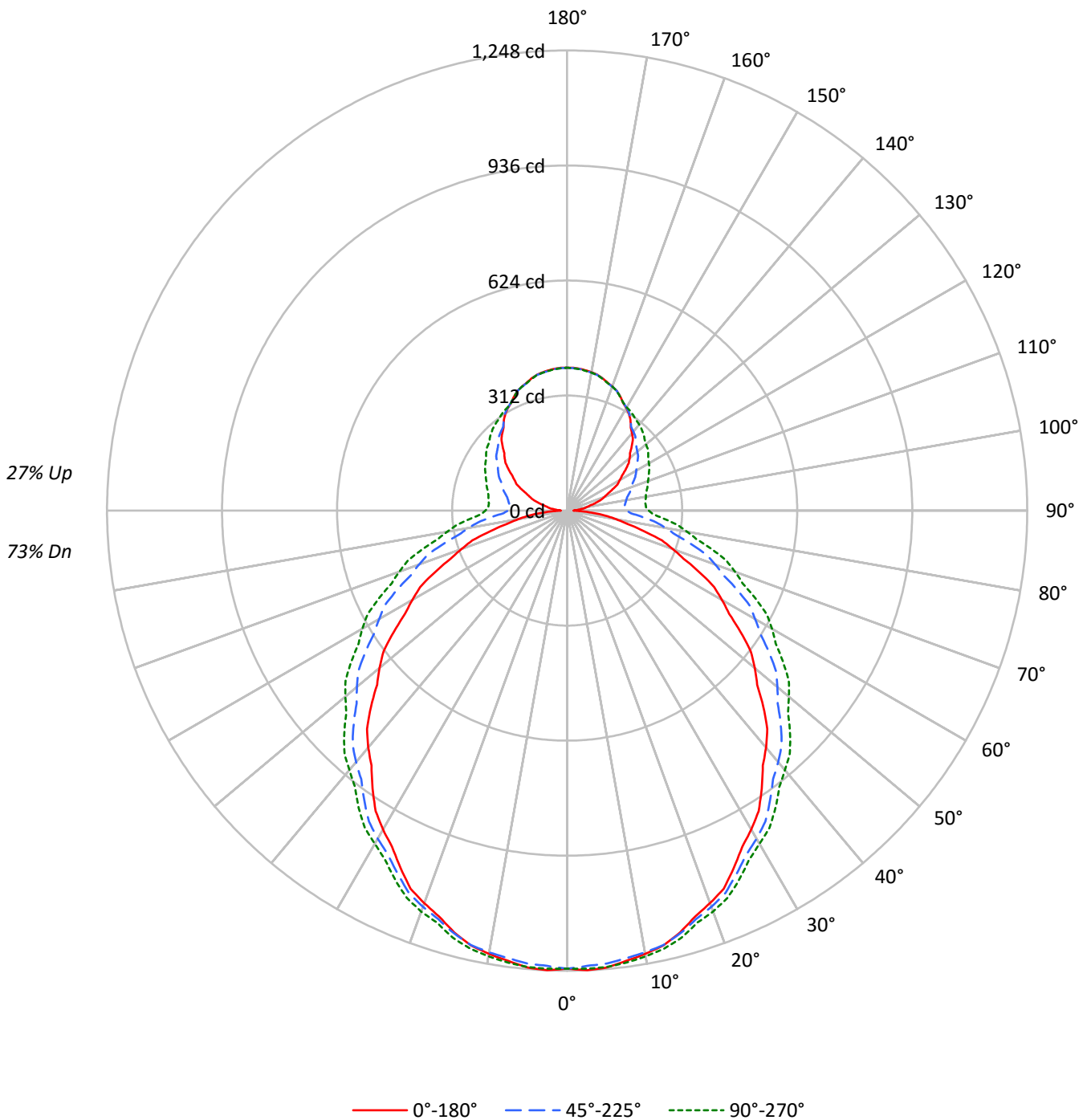
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	101	96	92	87	96	91	87	83	82	79	76	74	71	69	66	64	62	58
2	92	83	76	70	87	79	73	67	71	66	62	64	60	56	57	54	51	48
3	83	73	64	58	79	69	62	56	62	56	51	56	51	47	50	46	43	40
4	76	64	55	49	72	61	53	47	55	49	43	50	44	40	44	40	37	34
5	70	57	48	42	66	54	46	40	49	42	37	44	39	34	40	35	32	29
6	64	51	42	36	61	49	41	35	44	38	32	40	34	30	36	31	28	25
7	60	46	38	32	56	44	36	31	40	33	29	36	31	27	33	28	25	22
8	55	42	34	28	52	40	33	27	37	30	25	33	28	24	30	26	22	20
9	52	38	30	25	49	37	29	24	34	27	23	31	25	21	28	23	20	18
10	48	35	28	23	46	34	27	22	31	25	21	28	23	19	26	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13373	13373	13373
5°	13415	13037	13044
10°	13294	12736	12672
15°	13123	12396	12267
20°	12878	12006	11821
25°	12576	11558	11352
30°	12267	11155	10876
35°	11919	10728	10496
40°	11588	10340	10090
45°	11221	9968	9765
50°	10858	9599	9408
55°	10459	9224	9085
60°	10067	8841	8755
65°	9669	8433	8362
70°	9064	7974	7959
75°	8304	7449	7549
80°	7429	6933	7081
85°	6613	6577	6812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.8	2.2
10°-20°	335.7	6.4
20°-30°	502.2	9.6
30°-40°	599.7	11.4
40°-50°	627.4	12.0
50°-60°	588.8	11.2
60°-70°	491.8	9.4
70°-80°	351.8	6.7
80°-90°	211.0	4.0
90°-100°	156.9	3.0
100°-110°	172.3	3.3
110°-120°	193.1	3.7
120°-130°	205.9	3.9
130°-140°	206.5	3.9
140°-150°	190.2	3.6
150°-160°	157.2	3.0
160°-170°	104.6	2.0
170°-180°	36.6	0.7
0°-30°	955.7	18.2
0°-40°	1555.4	29.6
0°-60°	2771.6	52.8
0°-90°	3826.2	72.9
90°-120°	522.2	9.9
90°-150°	1124.8	21.4
90°-180°	1423.0	27.1
0°-180°	5249.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1244	1241	1233	1243	1242	118
15°	1184	1188	1187	1200	1199	333
25°	1069	1082	1087	1103	1104	492
35°	920	942	960	979	985	575
45°	752	785	819	844	855	580
55°	574	619	667	702	715	514
65°	397	450	509	548	563	392
75°	215	279	346	390	407	230
85°	66	134	206	250	265	70
90°	18	88	160	206	222	13
95°	33	88	156	198	213	32
105°	79	114	173	210	224	84
115°	136	155	201	233	245	135
125°	193	196	233	259	268	173
135°	248	250	263	286	293	191
145°	299	299	299	310	314	187
155°	341	341	341	342	340	157
165°	372	371	371	372	370	105
175°	386	385	385	387	385	37
180°	387	387	387	387	387	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1247.8	1247.2	1246.4	1245.7	1244.9	1243.6	1241.7	1239.8	1237.9	1236.0	1237.9
5°	1243.8	1243.2	1242.6	1242.0	1241.4	1240.2	1238.4	1236.6	1234.8	1233.0	1235.4
7.5°	1231.6	1231.7	1231.8	1232.0	1232.1	1231.3	1229.5	1227.8	1226.1	1224.3	1227.3
10°	1220.8	1221.4	1222.0	1222.6	1223.2	1222.7	1221.2	1219.7	1218.2	1216.7	1219.7
12.5°	1207.8	1208.6	1209.4	1210.3	1211.2	1211.1	1210.0	1209.0	1208.0	1206.9	1209.7
15°	1184.2	1185.2	1186.0	1187.0	1187.8	1188.2	1187.8	1187.6	1187.2	1187.0	1190.0
17.5°	1154.4	1156.2	1158.0	1159.9	1161.7	1162.5	1162.4	1162.3	1162.2	1162.0	1164.8
20°	1132.8	1134.6	1136.4	1138.2	1140.1	1141.3	1141.9	1142.5	1143.1	1143.7	1146.3
22.5°	1110.1	1111.9	1113.7	1115.5	1117.3	1118.6	1119.5	1120.3	1121.1	1122.0	1125.4
25°	1069.2	1072.2	1075.2	1078.2	1081.2	1083.1	1084.1	1084.9	1085.9	1086.8	1090.7
27.5°	1028.0	1031.5	1034.9	1038.4	1041.7	1044.5	1046.4	1048.3	1050.2	1052.1	1055.5
30°	998.8	1002.7	1006.6	1010.6	1014.4	1017.6	1020.0	1022.4	1024.8	1027.3	1030.9
32.5°	966.3	970.7	975.1	979.5	983.9	987.7	990.8	993.9	997.0	1000.1	1004.0
35°	920.3	925.1	930.0	934.8	939.6	943.9	947.9	951.7	955.6	959.6	964.1
37.5°	871.6	877.0	882.4	887.9	893.3	898.4	903.2	908.0	912.8	917.7	922.7
40°	839.1	844.6	850.0	855.3	860.7	866.5	872.5	878.5	884.5	890.5	895.7
42.5°	803.4	810.0	816.7	823.2	829.8	836.3	842.6	848.8	855.1	861.3	866.9
45°	752.5	759.7	766.9	774.1	781.4	788.8	796.3	803.7	811.3	818.8	824.5
47.5°	699.1	707.3	715.5	723.8	731.9	740.3	748.9	757.5	766.1	774.7	781.1
50°	664.5	673.0	681.4	689.7	698.2	707.1	716.4	725.7	735.0	744.3	751.3
52.5°	627.8	636.6	645.5	654.4	663.3	673.0	683.2	693.4	703.8	714.0	721.3
55°	573.9	583.8	593.7	603.6	613.5	623.9	634.7	645.6	656.4	667.3	675.4
57.5°	521.3	531.7	542.0	552.3	562.7	573.9	585.7	597.5	609.3	621.2	629.4
60°	484.5	495.3	506.2	517.0	527.8	539.4	551.7	564.0	576.4	588.8	597.2
62.5°	449.9	461.0	472.0	483.1	494.1	506.2	519.3	532.3	545.4	558.4	566.8
65°	396.6	408.3	420.0	431.7	443.5	456.0	469.2	482.4	495.7	508.9	517.9
67.5°	342.4	354.9	367.3	379.8	392.2	405.2	418.6	432.1	445.6	459.1	468.9
70°	304.5	317.5	330.4	343.3	356.3	370.0	384.4	398.8	413.3	427.7	437.3
72.5°	269.8	282.8	295.8	308.7	321.6	335.5	350.4	365.3	380.3	395.2	405.1
75°	215.2	229.4	243.5	257.6	271.7	286.3	301.4	316.4	331.4	346.5	356.4
77.5°	167.6	181.8	196.0	210.3	224.5	239.3	254.4	269.6	284.7	299.9	310.4
80°	134.0	148.7	163.5	178.2	193.0	208.1	223.8	239.4	255.0	270.7	280.9
82.5°	104.8	119.8	134.7	149.7	164.6	180.1	196.0	211.9	227.7	243.6	253.8
85°	66.3	81.4	96.4	111.4	126.5	142.0	157.9	173.8	189.8	205.7	215.9
87.5°	36.1	51.1	66.3	81.4	96.5	111.8	127.3	142.8	158.3	173.9	184.2
90°	17.9	33.3	48.7	64.1	79.6	95.4	111.6	127.8	144.0	160.2	170.7
92.5°	23.8	37.6	51.4	65.2	78.9	93.6	109.2	124.8	140.3	155.9	166.2
95°	32.8	45.0	57.3	69.5	81.6	95.4	110.6	126.0	141.2	156.5	166.1
97.5°	45.1	56.1	67.0	78.0	88.9	101.6	116.1	130.5	145.0	159.5	168.8
100°	53.6	63.6	73.6	83.7	93.7	105.8	119.9	134.1	148.3	162.5	171.4
102.5°	63.5	72.3	81.3	90.1	99.0	110.6	124.6	138.6	152.7	166.7	175.4
105°	79.3	86.6	94.0	101.3	108.7	119.2	132.7	146.2	159.8	173.3	181.8
107.5°	96.4	102.6	108.8	115.0	121.3	130.6	143.2	155.7	168.2	180.7	189.0
110°	107.0	112.5	118.1	123.6	129.2	138.0	150.2	162.4	174.5	186.8	194.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	119.2	123.7	128.2	132.8	137.3	145.3	157.0	168.5	180.1	191.7	199.6
115°	136.1	139.9	143.7	147.5	151.4	158.6	169.3	179.9	190.6	201.4	208.6
117.5°	154.2	156.5	158.9	161.3	163.6	169.8	179.8	189.8	199.8	209.7	216.9
120°	164.5	166.4	168.3	170.3	172.2	178.0	187.5	197.1	206.7	216.3	223.2
122.5°	176.5	177.5	178.7	179.7	180.8	186.0	195.3	204.5	213.8	223.0	229.5
125°	193.3	193.6	193.7	193.9	194.2	198.5	207.1	215.7	224.3	232.9	238.9
127.5°	210.1	210.3	210.3	210.5	210.6	214.2	221.3	228.3	235.5	242.5	248.1
130°	221.3	221.5	221.8	222.1	222.3	225.3	231.1	236.9	242.7	248.6	254.0
132.5°	231.4	231.9	232.4	232.9	233.3	235.9	240.6	245.2	249.9	254.6	259.8
135°	248.2	248.4	248.5	248.6	248.7	250.4	253.6	256.8	260.1	263.3	268.5
137.5°	263.8	263.9	264.0	264.1	264.2	265.3	267.3	269.3	271.4	273.5	277.9
140°	273.7	274.0	274.3	274.7	275.0	275.7	276.6	277.6	278.6	279.6	284.0
142.5°	283.6	283.8	283.9	284.0	284.0	284.2	284.6	284.8	285.2	285.4	289.4
145°	299.2	299.0	298.9	298.8	298.6	298.6	298.8	299.0	299.2	299.4	301.8
147.5°	311.5	311.8	312.0	312.3	312.5	312.7	312.9	313.1	313.2	313.5	314.2
150°	321.0	321.2	321.2	321.4	321.6	321.7	321.8	321.9	322.1	322.2	322.2
152.5°	328.8	329.0	329.2	329.3	329.6	329.7	329.8	329.8	329.9	330.0	330.1
155°	341.1	341.1	341.1	341.1	341.1	341.1	341.2	341.2	341.3	341.4	341.6
157.5°	351.5	351.5	351.4	351.3	351.2	351.2	351.3	351.3	351.4	351.5	351.7
160°	358.1	358.0	357.8	357.7	357.6	357.5	357.5	357.5	357.5	357.5	357.8
162.5°	363.9	363.8	363.6	363.4	363.2	363.2	363.2	363.3	363.3	363.3	363.7
165°	371.5	371.3	371.1	370.9	370.7	370.6	370.6	370.6	370.6	370.6	371.0
167.5°	377.5	377.3	377.0	376.7	376.4	376.3	376.4	376.4	376.5	376.6	376.9
170°	380.9	380.6	380.4	380.1	379.9	379.7	379.7	379.7	379.7	379.7	380.2
172.5°	383.7	383.3	383.1	382.8	382.5	382.4	382.4	382.4	382.4	382.4	382.8
175°	386.4	386.2	385.9	385.6	385.4	385.2	385.2	385.2	385.2	385.2	385.6
177.5°	387.5	387.4	387.1	386.9	386.7	386.6	386.6	386.6	386.6	386.6	386.9
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1239.8	1241.7	1243.6	1244.5	1244.2	1244.0	1243.7	1243.5
5°	1237.8	1240.2	1242.6	1243.6	1243.4	1243.0	1242.8	1242.4
7.5°	1230.3	1233.3	1236.3	1237.7	1237.3	1236.9	1236.6	1236.2
10°	1222.7	1225.7	1228.7	1229.9	1229.3	1228.7	1228.1	1227.5
12.5°	1212.5	1215.3	1218.1	1219.1	1218.5	1217.9	1217.3	1216.7
15°	1192.9	1195.9	1198.9	1200.3	1200.1	1199.7	1199.5	1199.1
17.5°	1167.4	1170.2	1172.9	1174.0	1173.6	1173.2	1172.8	1172.3
20°	1149.0	1151.8	1154.4	1156.0	1156.2	1156.6	1156.8	1157.2
22.5°	1128.9	1132.3	1135.7	1137.3	1137.1	1137.0	1136.8	1136.6
25°	1094.6	1098.5	1102.4	1104.4	1104.4	1104.4	1104.4	1104.4
27.5°	1058.9	1062.2	1065.6	1067.4	1067.6	1067.9	1068.2	1068.4
30°	1034.5	1038.1	1041.6	1043.4	1043.4	1043.4	1043.4	1043.4
32.5°	1007.9	1011.8	1015.5	1017.9	1018.6	1019.3	1020.0	1020.7
35°	968.6	973.1	977.6	980.5	981.7	982.9	984.1	985.2
37.5°	927.8	933.0	938.1	941.1	942.1	943.1	944.0	944.9
40°	900.8	905.9	911.0	914.1	915.3	916.5	917.7	918.9
42.5°	872.5	878.1	883.7	887.3	889.0	890.7	892.3	894.1
45°	830.3	835.9	841.7	845.8	848.2	850.6	853.0	855.3
47.5°	787.6	794.0	800.5	804.6	806.4	808.3	810.2	812.0
50°	758.2	765.2	772.1	776.5	778.7	780.8	782.9	785.0
52.5°	728.4	735.6	742.7	747.6	750.2	752.8	755.4	757.9
55°	683.5	691.6	699.7	705.0	707.4	709.8	712.2	714.6
57.5°	637.6	645.8	653.9	659.4	662.3	665.1	668.0	670.7
60°	605.5	614.0	622.4	628.3	631.6	634.9	638.2	641.5
62.5°	575.2	583.7	592.1	597.9	600.9	604.0	607.1	610.1
65°	526.9	536.0	545.0	551.0	554.0	557.0	560.0	563.0
67.5°	478.8	488.7	498.5	504.7	507.3	509.8	512.3	514.9
70°	446.9	456.6	466.1	472.5	475.5	478.5	481.5	484.5
72.5°	414.9	424.8	434.6	441.1	444.1	447.1	450.1	453.1
75°	366.4	376.3	386.2	393.0	396.6	400.2	403.8	407.3
77.5°	320.8	331.3	341.8	348.4	351.2	354.0	356.7	359.5
80°	291.1	301.4	311.6	318.2	321.2	324.3	327.3	330.2
82.5°	264.1	274.3	284.5	291.1	294.1	297.1	300.1	303.2
85°	226.2	236.4	246.6	253.2	256.2	259.2	262.3	265.3
87.5°	194.4	204.7	215.0	221.6	224.7	227.7	230.7	233.8
90°	181.2	191.7	202.2	209.1	212.2	215.3	218.4	221.6
92.5°	176.3	186.6	196.7	203.2	205.9	208.6	211.3	214.0
95°	175.7	185.3	194.8	201.2	204.2	207.2	210.2	213.2
97.5°	178.1	187.3	196.6	202.7	205.7	208.6	211.6	214.6
100°	180.3	189.2	198.2	204.2	207.3	210.5	213.6	216.8
102.5°	184.1	192.8	201.4	207.2	210.3	213.2	216.2	219.2
105°	190.2	198.5	207.0	212.7	215.5	218.3	221.2	224.0
107.5°	197.3	205.5	213.8	219.2	221.8	224.4	227.0	229.5
110°	202.9	211.0	219.1	224.3	226.5	228.8	231.1	233.3



TEST NUMBER: P332049-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	207.5	215.3	223.3	228.5	231.2	233.8	236.4	239.0
115°	215.9	223.2	230.5	235.3	237.6	240.0	242.3	244.7
117.5°	224.0	231.2	238.3	243.0	245.1	247.3	249.4	251.6
120°	230.0	236.9	243.7	248.1	250.0	252.0	254.0	256.0
122.5°	236.0	242.5	249.0	253.2	255.2	257.1	259.0	260.9
125°	245.0	251.0	257.0	261.0	262.9	264.7	266.5	268.3
127.5°	253.7	259.2	264.8	268.5	270.2	272.0	273.7	275.4
130°	259.4	264.8	270.4	273.7	275.0	276.4	277.7	279.1
132.5°	264.8	270.0	275.2	278.6	280.3	282.0	283.6	285.3
135°	273.6	278.7	283.9	287.1	288.5	289.9	291.3	292.7
137.5°	282.3	286.8	291.3	294.1	295.4	296.6	297.9	299.1
140°	288.4	292.9	297.3	300.1	301.1	302.1	303.2	304.2
142.5°	293.3	297.3	301.3	303.8	305.0	306.2	307.3	308.4
145°	304.1	306.4	308.8	310.4	311.3	312.3	313.1	314.1
147.5°	314.9	315.6	316.3	317.0	317.7	318.4	319.1	319.8
150°	322.2	322.2	322.2	322.4	322.5	322.7	322.9	323.1
152.5°	330.2	330.4	330.5	330.4	330.2	329.9	329.7	329.4
155°	341.9	342.2	342.5	342.3	341.9	341.4	341.0	340.4
157.5°	352.0	352.3	352.6	352.5	352.1	351.8	351.4	351.0
160°	358.2	358.5	358.9	358.9	358.6	358.3	358.1	357.8
162.5°	364.0	364.4	364.7	364.6	364.2	363.8	363.3	362.9
165°	371.4	371.8	372.2	372.2	371.7	371.3	370.7	370.3
167.5°	377.4	377.8	378.2	378.2	377.8	377.4	376.9	376.6
170°	380.6	381.2	381.6	381.6	381.2	380.6	380.2	379.7
172.5°	383.2	383.7	384.1	384.1	383.6	383.1	382.6	382.2
175°	386.0	386.4	386.8	386.8	386.3	385.8	385.4	384.9
177.5°	387.3	387.5	387.9	387.9	387.5	387.1	386.8	386.3
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4

(END OF REPORT)