

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: P332666-840

Luminaire Tested: **S124DIP-S1020D1205U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332666-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D1205U840-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8597.7 lumens
Efficiency: N/A
Efficacy: 131.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

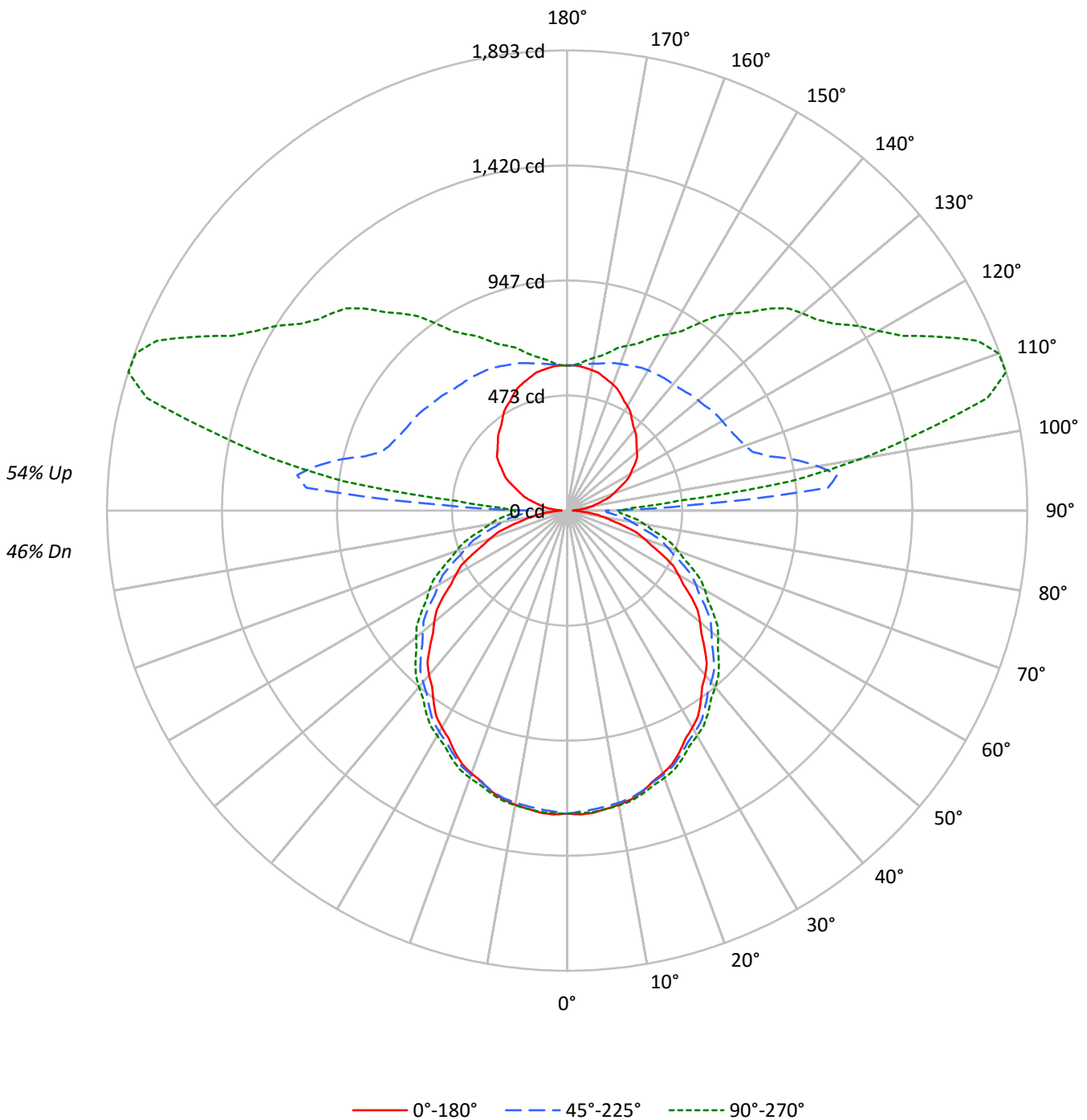
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	43	42	37
2	87	79	73	67	79	73	67	62	60	56	53	49	46	44	39	37	35	30
3	79	69	62	55	72	64	57	51	53	48	44	43	39	36	34	31	29	25
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	27	25	21
5	66	54	46	40	60	50	42	37	42	36	32	34	30	27	27	24	21	18
6	61	48	40	34	55	45	37	32	37	32	27	31	26	23	24	21	19	16
7	56	44	35	30	51	40	33	28	34	28	24	28	24	20	22	19	17	14
8	52	39	32	26	47	36	29	25	31	25	21	25	21	18	20	17	15	12
9	48	36	28	23	44	33	26	22	28	23	19	23	19	16	19	16	13	11
10	45	33	26	21	41	31	24	19	26	21	17	22	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10066	10066	10066
5°	10097	9838	9866
10°	10035	9677	9669
15°	9945	9490	9439
20°	9810	9285	9213
25°	9657	9054	8967
30°	9492	8825	8712
35°	9305	8591	8490
40°	9154	8367	8259
45°	8931	8161	8059
50°	8744	7924	7849
55°	8549	7700	7603
60°	8247	7415	7378
65°	7914	7109	7102
70°	7513	6760	6779
75°	6949	6374	6488
80°	6328	6004	6203
85°	5536	5679	6037



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.1	1.4
10°-20°	338.3	3.9
20°-30°	511.5	5.9
30°-40°	618.9	7.2
40°-50°	654.3	7.6
50°-60°	615.8	7.2
60°-70°	510.9	5.9
70°-80°	358.9	4.2
80°-90°	206.2	2.4
90°-100°	551.9	6.4
100°-110°	987.1	11.5
110°-120°	864.1	10.1
120°-130°	710.3	8.3
130°-140°	578.7	6.7
140°-150°	433.9	5.0
150°-160°	302.9	3.5
160°-170°	178.2	2.1
170°-180°	58.0	0.7
0°-30°	967.9	11.3
0°-40°	1586.8	18.5
0°-60°	2856.9	33.2
0°-90°	3932.8	45.7
90°-120°	2403.0	27.9
90°-150°	4125.8	48.0
90°-180°	4665.0	54.3
0°-180°	8597.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1247	1247	1247	1247	1247	
5°	1248	1244	1234	1245	1244	118
15°	1197	1198	1194	1206	1205	337
25°	1095	1103	1107	1122	1124	504
35°	958	974	989	1007	1012	600
45°	799	825	852	875	882	617
55°	626	656	697	724	733	557
65°	433	478	525	559	571	429
75°	240	292	350	388	402	255
85°	74	133	196	236	251	79
90°	24	88	159	201	214	17
95°	57	187	1078	631	458	58
105°	150	241	862	1783	1789	161
115°	250	326	752	1414	1691	249
125°	342	406	722	1187	1339	305
135°	403	480	690	1030	1174	312
145°	462	528	674	848	938	290
155°	524	566	655	742	773	242
165°	572	589	628	665	675	161
175°	596	597	602	610	608	57
180°	597	597	597	597	597	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9
2.5°	1251.3	1250.6	1249.8	1249.1	1248.3	1247.0	1245.0	1243.0	1241.0	1239.0	1240.7
5°	1248.2	1247.3	1246.4	1245.5	1244.6	1242.9	1240.8	1238.6	1236.5	1234.3	1236.8
7.5°	1237.6	1237.1	1236.5	1236.0	1235.4	1234.3	1232.4	1230.6	1228.8	1227.0	1229.8
10°	1228.7	1228.4	1228.1	1227.8	1227.5	1226.5	1225.0	1223.5	1221.8	1220.3	1223.1
12.5°	1216.4	1216.4	1216.3	1216.2	1216.2	1215.6	1214.6	1213.5	1212.4	1211.3	1214.0
15°	1196.6	1196.9	1197.2	1197.5	1197.8	1197.5	1196.6	1195.7	1194.7	1193.8	1196.6
17.5°	1169.5	1170.4	1171.3	1172.3	1173.3	1173.6	1173.4	1173.3	1173.1	1172.9	1175.7
20°	1150.5	1151.4	1152.4	1153.3	1154.3	1154.9	1155.2	1155.5	1155.8	1156.1	1159.2
22.5°	1129.2	1130.4	1131.7	1132.9	1134.0	1134.9	1135.4	1136.0	1136.5	1137.1	1140.2
25°	1094.7	1096.5	1098.3	1100.2	1102.1	1103.5	1104.4	1105.4	1106.3	1107.2	1110.6
27.5°	1056.1	1058.8	1061.6	1064.3	1067.0	1069.1	1070.6	1072.0	1073.4	1074.8	1078.0
30°	1030.5	1032.9	1035.4	1037.8	1040.4	1042.7	1044.8	1047.0	1049.1	1051.4	1054.8
32.5°	1002.5	1005.5	1008.5	1011.5	1014.4	1017.1	1019.6	1022.0	1024.4	1026.8	1030.7
35°	957.9	961.6	965.2	969.0	972.7	976.1	979.3	982.3	985.4	988.6	992.9
37.5°	912.8	917.2	921.4	925.7	930.0	934.0	937.9	941.7	945.6	949.5	953.8
40°	883.8	887.9	891.9	896.0	900.0	904.1	908.5	912.8	917.2	921.5	926.1
42.5°	850.3	854.9	859.4	863.9	868.4	873.2	878.3	883.4	888.5	893.6	898.8
45°	798.6	804.6	810.4	816.4	822.2	828.1	834.0	839.9	845.8	851.7	857.0
47.5°	749.2	755.3	761.3	767.5	773.6	780.0	786.8	793.7	800.5	807.3	812.7
50°	713.5	720.3	727.1	734.0	740.7	747.6	754.5	761.2	768.1	774.9	781.1
52.5°	677.7	684.6	691.4	698.2	705.1	712.4	720.1	728.0	735.8	743.7	749.8
55°	625.5	632.1	638.5	645.1	651.6	659.4	668.8	678.1	687.4	696.7	703.0
57.5°	567.1	575.2	583.3	591.4	599.5	608.0	617.3	626.6	635.8	645.1	652.5
60°	529.2	537.2	545.3	553.4	561.5	570.6	580.9	591.1	601.3	611.6	618.6
62.5°	492.3	501.1	510.0	518.8	527.6	537.0	547.3	557.5	567.8	578.0	585.2
65°	432.8	442.7	452.7	462.6	472.5	482.8	493.3	503.9	514.4	525.0	532.7
67.5°	375.6	386.2	396.7	407.3	417.8	428.7	440.0	451.3	462.6	473.9	481.8
70°	336.5	347.1	357.6	368.1	378.7	389.9	401.6	413.4	425.3	437.1	445.5
72.5°	298.5	309.3	320.1	330.9	341.7	353.4	365.9	378.4	391.0	403.5	411.6
75°	240.1	251.7	263.1	274.6	286.1	298.3	311.3	324.4	337.4	350.4	359.1
77.5°	185.7	197.8	210.1	222.2	234.4	247.2	260.9	274.6	288.2	301.8	310.6
80°	152.2	164.6	177.0	189.5	201.9	214.9	228.5	242.2	255.8	269.4	278.8
82.5°	118.7	131.6	144.5	157.4	170.3	183.6	197.2	210.9	224.6	238.2	247.7
85°	74.0	87.1	100.1	113.1	126.1	139.7	153.6	167.5	181.5	195.5	204.8
87.5°	41.6	54.7	68.1	81.0	93.8	106.9	122.0	135.5	149.7	163.7	172.5
90°	23.5	38.3	54.2	67.8	81.4	94.2	114.6	127.9	143.7	159.4	167.1
92.5°	34.6	51.9	74.0	99.6	127.8	164.5	237.5	341.8	443.9	503.7	450.3
95°	56.9	70.6	92.6	118.1	156.5	217.2	332.0	537.2	830.4	1077.8	1113.2
97.5°	85.9	94.7	113.6	136.5	169.6	221.6	312.8	484.2	775.7	1120.1	1356.3
100°	104.5	112.6	128.9	151.1	181.4	229.0	310.3	455.0	706.6	1049.6	1358.4
102.5°	123.3	132.3	146.6	166.8	195.3	240.4	314.9	443.4	658.9	964.2	1282.1
105°	149.9	159.6	171.7	192.0	219.2	262.2	329.9	438.8	614.6	861.9	1145.5
107.5°	182.0	189.5	200.4	220.5	245.7	287.3	349.8	449.4	600.6	801.2	1034.0
110°	202.5	209.1	219.3	237.7	263.3	302.6	365.0	458.0	597.9	779.0	977.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	222.0	228.1	238.8	255.8	280.7	319.6	379.7	467.5	598.5	765.0	942.4
115°	250.1	256.4	267.4	282.0	307.0	345.1	401.9	482.3	601.4	752.1	906.8
117.5°	280.8	285.8	294.7	309.3	331.8	370.2	424.0	498.1	605.1	742.6	885.9
120°	300.3	303.7	312.8	326.6	347.5	385.3	438.9	508.9	608.2	737.0	873.4
122.5°	319.1	321.6	330.0	342.2	364.3	400.5	453.5	519.4	611.7	730.4	860.3
125°	342.3	346.8	353.5	366.1	388.1	424.6	474.6	536.3	618.0	722.1	840.6
127.5°	364.0	367.4	375.5	390.0	412.9	448.8	495.6	551.1	621.6	711.0	815.3
130°	375.0	379.4	388.5	405.8	427.8	464.1	509.0	559.7	624.5	704.6	799.3
132.5°	387.2	390.6	402.5	418.9	442.7	476.8	520.6	569.4	627.6	699.1	785.3
135°	402.9	407.7	419.4	439.3	463.9	495.5	536.4	580.9	631.2	689.6	762.7
137.5°	420.1	424.2	436.9	455.6	480.8	510.3	547.4	587.9	631.7	683.0	743.7
140°	432.3	435.5	448.1	467.8	492.1	520.2	555.7	593.6	633.8	678.7	733.2
142.5°	444.3	447.8	459.7	478.6	502.3	529.4	563.4	597.9	635.8	676.5	724.9
145°	462.5	465.7	477.2	493.3	515.3	541.0	571.5	603.2	637.2	673.6	713.0
147.5°	483.4	484.3	494.3	510.9	529.2	552.2	580.9	608.5	638.3	669.3	702.7
150°	496.6	497.5	506.5	520.3	537.6	559.8	585.5	611.4	638.3	666.5	695.9
152.5°	507.7	507.9	517.2	530.3	545.9	566.3	589.4	613.3	636.5	661.9	688.3
155°	524.5	525.7	532.7	544.5	557.4	575.0	594.9	614.9	633.7	654.8	677.1
157.5°	541.2	541.2	547.8	556.9	568.2	582.1	599.0	614.9	630.7	647.5	665.6
160°	551.5	551.5	556.2	564.4	573.8	586.7	600.8	614.9	627.8	641.9	657.1
162.5°	560.9	560.0	563.7	571.0	579.5	589.6	602.7	614.9	625.0	636.2	649.6
165°	571.5	571.5	573.8	579.7	585.5	592.6	603.2	612.6	619.6	627.8	637.2
167.5°	582.1	580.9	582.1	586.5	589.8	595.2	602.9	609.8	614.0	619.4	625.9
170°	586.7	585.5	586.7	590.3	592.6	596.1	602.0	607.8	610.2	613.7	618.4
172.5°	591.4	590.3	590.5	593.1	594.5	597.0	601.1	606.0	606.4	608.0	611.9
175°	596.1	594.9	594.9	596.1	597.3	597.3	599.7	603.2	602.0	602.0	604.3
177.5°	598.2	597.3	596.3	597.3	597.3	597.3	598.2	600.1	598.2	598.2	599.2
180°	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9
2.5°	1242.5	1244.3	1246.0	1246.7	1246.5	1246.2	1246.0	1245.8
5°	1239.2	1241.7	1244.3	1245.3	1245.0	1244.7	1244.4	1244.1
7.5°	1232.6	1235.4	1238.2	1239.4	1239.1	1238.8	1238.5	1238.2
10°	1225.9	1228.7	1231.5	1232.7	1232.4	1232.1	1231.8	1231.5
12.5°	1216.5	1219.0	1221.5	1222.8	1222.7	1222.6	1222.6	1222.5
15°	1199.4	1202.1	1205.0	1206.2	1205.9	1205.6	1205.3	1205.0
17.5°	1178.5	1181.4	1184.3	1185.6	1185.3	1185.1	1184.8	1184.6
20°	1162.3	1165.4	1168.5	1170.0	1170.0	1170.0	1170.0	1170.0
22.5°	1143.3	1146.4	1149.5	1151.3	1151.9	1152.3	1152.8	1153.3
25°	1114.1	1117.4	1120.8	1122.8	1123.1	1123.4	1123.7	1124.0
27.5°	1081.2	1084.3	1087.5	1089.2	1089.6	1090.0	1090.4	1090.8
30°	1058.2	1061.6	1065.0	1067.0	1067.6	1068.2	1068.9	1069.5
32.5°	1034.6	1038.5	1042.5	1044.7	1045.3	1045.9	1046.5	1047.2
35°	997.2	1001.6	1005.9	1008.6	1009.5	1010.4	1011.4	1012.3
37.5°	958.3	962.7	967.0	969.8	970.8	971.8	972.7	973.7
40°	930.8	935.4	940.2	943.1	944.3	945.5	946.8	948.1
42.5°	903.9	909.1	914.2	917.3	918.3	919.3	920.3	921.2
45°	862.2	867.6	872.8	876.3	877.8	879.3	880.9	882.4
47.5°	818.2	823.6	829.2	832.8	834.7	836.6	838.4	840.3
50°	787.3	793.6	799.7	803.8	805.7	807.5	809.3	811.2
52.5°	756.1	762.2	768.5	772.4	774.4	776.2	778.1	779.9
55°	709.1	715.4	721.5	725.6	727.4	729.3	731.1	733.1
57.5°	659.8	667.2	674.6	679.1	680.9	682.7	684.4	686.1
60°	625.8	633.0	640.1	644.9	647.4	649.8	652.4	654.8
62.5°	592.3	599.5	606.6	611.4	613.9	616.3	618.8	621.4
65°	540.5	548.3	556.0	561.2	563.6	566.1	568.6	571.1
67.5°	489.7	497.6	505.4	510.6	513.0	515.4	517.9	520.3
70°	453.7	462.1	470.5	475.8	478.0	480.2	482.3	484.5
72.5°	419.8	427.9	436.1	441.3	443.7	446.2	448.6	451.0
75°	367.8	376.5	385.2	390.9	393.7	396.6	399.3	402.1
77.5°	319.5	328.3	337.1	343.1	346.0	349.0	351.9	355.0
80°	288.1	297.4	306.7	312.6	315.1	317.6	320.0	322.6
82.5°	257.3	266.9	276.4	282.6	285.3	288.0	290.7	293.5
85°	214.1	223.4	232.7	238.9	242.1	245.1	248.2	251.4
87.5°	181.7	190.9	200.2	206.0	208.9	212.0	214.4	217.1
90°	177.3	187.5	197.7	203.4	207.1	210.8	212.1	214.5
92.5°	379.5	331.2	304.5	286.7	275.3	271.5	269.9	272.5
95°	1007.7	834.2	685.4	577.1	522.4	488.9	470.5	458.1
97.5°	1413.8	1354.3	1247.7	1130.5	1048.9	981.0	948.5	926.8
100°	1538.0	1569.9	1520.8	1439.3	1339.3	1269.9	1236.9	1229.6
102.5°	1525.4	1649.9	1674.8	1643.9	1583.7	1534.2	1499.5	1494.4
105°	1422.0	1632.7	1756.7	1809.9	1814.7	1807.8	1793.8	1789.3
107.5°	1279.6	1503.4	1674.6	1784.2	1844.4	1873.4	1887.3	1892.7
110°	1193.4	1403.5	1580.8	1714.8	1800.5	1852.3	1875.9	1889.0



TEST NUMBER: P332666-840

CATALOG NUMBER: S124DIP-S1020D1205U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1128.1	1314.6	1482.3	1616.0	1713.0	1775.1	1807.3	1826.8
115°	1060.3	1211.4	1355.5	1472.7	1567.6	1640.2	1679.9	1691.4
117.5°	1022.1	1148.0	1262.4	1362.4	1443.9	1505.6	1546.1	1555.8
120°	1002.8	1118.2	1218.3	1306.0	1375.3	1429.4	1462.4	1477.8
122.5°	986.0	1097.6	1189.2	1266.4	1325.2	1371.6	1399.6	1414.7
125°	959.2	1065.9	1152.9	1221.2	1270.0	1306.0	1330.1	1339.0
127.5°	926.7	1028.7	1115.0	1180.1	1229.4	1261.8	1282.7	1291.8
130°	902.3	1000.6	1086.0	1152.0	1201.8	1233.0	1253.7	1262.6
132.5°	877.7	970.1	1053.3	1119.1	1168.1	1203.1	1222.7	1231.7
135°	841.6	922.8	999.4	1061.5	1110.2	1145.0	1165.6	1174.5
137.5°	809.6	878.7	943.5	999.7	1045.1	1079.0	1096.0	1106.1
140°	791.2	850.4	907.3	959.3	1002.0	1029.4	1047.3	1058.2
142.5°	774.9	827.0	875.8	920.9	958.6	983.8	999.7	1007.5
145°	752.3	794.2	831.2	865.7	896.2	917.4	930.4	937.5
147.5°	733.9	765.9	794.3	820.7	843.2	861.4	871.3	874.4
150°	724.1	751.0	774.5	795.6	814.4	829.6	836.7	837.9
152.5°	713.7	736.9	758.5	775.9	791.8	804.3	808.5	809.7
155°	698.2	717.0	734.6	748.7	760.4	769.8	773.4	773.4
157.5°	681.6	697.3	712.1	723.4	732.3	739.3	741.4	741.4
160°	671.3	684.1	697.0	706.4	713.5	720.5	721.6	721.6
162.5°	660.9	672.0	682.1	690.4	695.6	702.7	703.9	702.9
165°	646.6	653.6	661.9	667.7	672.4	677.1	675.9	674.8
167.5°	632.8	638.1	644.7	648.2	650.6	653.6	653.4	652.5
170°	624.3	627.8	632.5	636.0	638.3	639.5	638.3	638.3
172.5°	616.7	619.4	622.2	624.7	626.1	627.3	626.1	624.3
175°	606.7	607.8	610.2	610.2	610.2	612.6	610.2	607.8
177.5°	600.1	601.1	601.1	602.0	601.1	602.0	600.1	598.2
180°	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3

(END OF REPORT)