

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: P332660-927

Luminaire Tested: **S124DIP-S1020D1035U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332660-927
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-S1020D1035U927-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6437.6 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

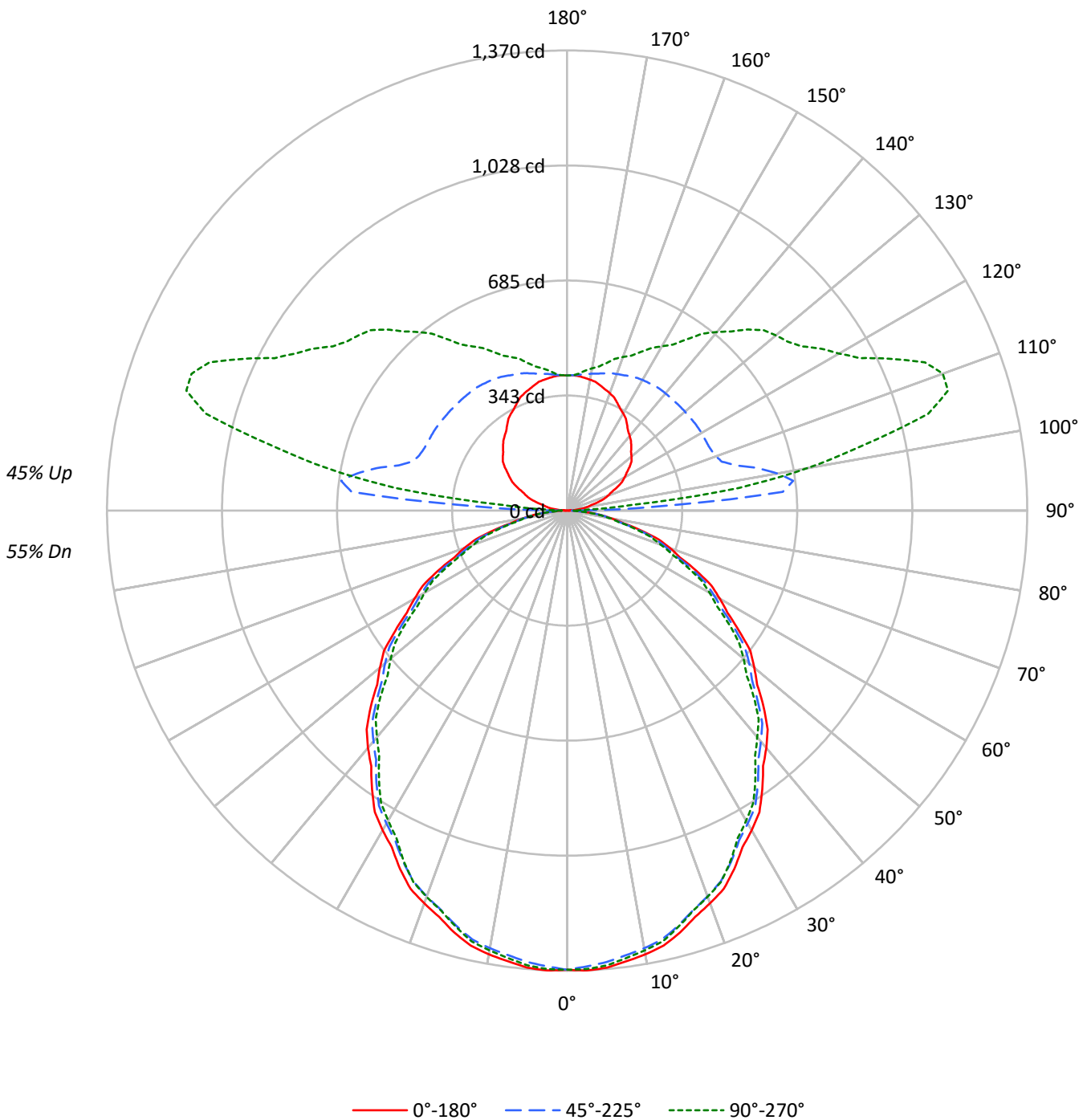
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60	55
1	99	94	90	87	91	88	84	81	75	73	70	64	62	60	53	52	51	46
2	90	82	76	71	83	77	71	67	66	62	58	56	53	50	47	45	43	38
3	82	72	65	59	76	67	61	56	58	53	49	50	46	43	41	39	36	32
4	75	64	56	50	69	60	53	47	52	46	42	44	40	37	37	34	31	28
5	69	57	49	43	64	53	46	41	46	40	36	40	35	32	33	30	27	24
6	64	51	43	37	59	48	41	35	42	36	31	36	31	28	30	27	24	21
7	59	46	38	33	54	43	36	31	38	32	28	33	28	25	28	24	21	19
8	55	42	34	29	51	39	32	28	35	29	25	30	25	22	25	22	19	17
9	51	38	31	26	47	36	29	25	32	26	22	27	23	20	24	20	17	15
10	47	35	28	23	44	33	27	22	29	24	20	25	21	18	22	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11035	11035	11035
5°	11068	10935	11015
10°	10999	10846	10900
15°	10866	10692	10719
20°	10689	10501	10510
25°	10488	10283	10253
30°	10241	10026	9934
35°	9984	9758	9629
40°	9720	9454	9280
45°	9442	9154	8978
50°	9134	8887	8611
55°	8802	8541	8263
60°	8472	8152	7905
65°	8097	7782	7469
70°	7678	7291	7006
75°	7037	6697	6525
80°	6267	6007	5858
85°	5483	5280	5169



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.7	2.0
10°-20°	362.7	5.6
20°-30°	533.8	8.3
30°-40°	620.6	9.6
40°-50°	620.6	9.6
50°-60°	542.9	8.4
60°-70°	403.2	6.3
70°-80°	229.1	3.6
80°-90°	68.3	1.1
90°-100°	290.8	4.5
100°-110°	605.1	9.4
110°-120°	542.0	8.4
120°-130°	455.9	7.1
130°-140°	380.1	5.9
140°-150°	290.4	4.5
150°-160°	204.1	3.2
160°-170°	120.1	1.9
170°-180°	39.1	0.6
0°-30°	1025.2	15.9
0°-40°	1645.9	25.6
0°-60°	2809.4	43.6
0°-90°	3509.9	54.5
90°-120°	1437.9	22.3
90°-150°	2564.4	39.8
90°-180°	2928.0	45.5
0°-180°	6437.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1366	1361	1349	1361	1359	129
15°	1300	1295	1279	1285	1282	366
25°	1177	1169	1154	1155	1151	541
35°	1013	1005	990	983	977	633
45°	827	819	802	790	786	637
55°	625	621	607	594	587	560
65°	424	418	407	397	391	420
75°	226	220	215	210	209	240
85°	59	59	57	57	56	65
90°	1	6	14	16	17	5
95°	26	82	644	319	193	29
105°	92	134	519	1117	1113	99
115°	163	204	463	889	1068	162
125°	227	270	460	756	852	202
135°	270	321	456	671	762	208
145°	311	356	454	566	622	195
155°	354	382	441	500	521	163
165°	385	397	423	448	455	109
175°	402	402	406	411	410	38
180°	402	402	402	402	402	



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CATALOG NUMBER: S124DIP-S1020D1035U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9
2.5°	1370.4	1369.8	1369.2	1368.7	1368.1	1366.7	1364.5	1362.4	1360.3	1358.1	1360.1
5°	1365.8	1364.9	1363.9	1362.9	1361.9	1360.1	1357.4	1354.7	1352.1	1349.4	1352.1
7.5°	1353.1	1352.1	1351.1	1350.2	1349.2	1347.3	1344.3	1341.3	1338.3	1335.4	1337.5
10°	1341.7	1340.8	1339.7	1338.8	1337.8	1335.8	1332.6	1329.4	1326.3	1323.1	1325.0
12.5°	1326.8	1325.9	1324.8	1323.9	1322.9	1320.7	1317.4	1314.1	1310.7	1307.3	1309.5
15°	1300.1	1299.1	1298.1	1297.2	1296.2	1293.9	1290.2	1286.6	1282.9	1279.3	1280.7
17.5°	1267.9	1266.7	1265.4	1264.2	1263.1	1260.7	1257.2	1253.8	1250.3	1246.9	1247.8
20°	1244.2	1243.0	1241.8	1240.6	1239.4	1236.9	1233.3	1229.6	1226.0	1222.3	1223.1
22.5°	1218.9	1217.2	1215.6	1214.0	1212.4	1209.7	1206.1	1202.5	1198.8	1195.2	1196.5
25°	1177.4	1175.8	1174.0	1172.3	1170.6	1168.1	1164.7	1161.3	1157.9	1154.4	1154.7
27.5°	1130.1	1128.4	1126.6	1124.8	1123.1	1120.6	1117.5	1114.3	1111.1	1107.9	1107.4
30°	1098.6	1096.6	1094.6	1092.7	1090.8	1088.2	1085.1	1081.9	1078.7	1075.5	1074.6
32.5°	1065.2	1063.5	1061.8	1060.0	1058.3	1055.7	1052.3	1049.0	1045.6	1042.3	1041.1
35°	1013.1	1011.5	1009.7	1008.1	1006.3	1003.8	1000.4	997.0	993.6	990.1	988.4
37.5°	958.1	956.6	955.1	953.5	951.9	949.4	945.6	942.0	938.3	934.7	932.9
40°	922.3	920.3	918.3	916.4	914.4	911.6	908.0	904.4	900.7	897.1	894.6
42.5°	883.7	882.5	881.3	880.2	879.0	876.4	872.4	868.3	864.3	860.2	857.4
45°	827.0	825.2	823.6	821.8	820.1	817.3	813.4	809.5	805.6	801.8	799.1
47.5°	767.5	766.4	765.2	764.1	762.9	760.5	756.9	753.3	749.7	746.1	743.1
50°	727.3	726.3	725.3	724.4	723.3	721.2	717.8	714.4	711.0	707.6	704.2
52.5°	687.9	686.7	685.5	684.4	683.2	680.8	677.2	673.6	669.9	666.4	663.4
55°	625.4	624.6	623.9	623.2	622.5	620.4	617.0	613.6	610.2	606.8	603.9
57.5°	565.9	565.0	564.2	563.3	562.5	560.4	557.1	553.7	550.3	547.0	544.2
60°	524.7	523.4	522.2	521.0	519.8	517.6	514.4	511.3	508.1	504.9	502.7
62.5°	484.3	483.3	482.3	481.3	480.2	478.1	474.7	471.3	467.9	464.6	462.6
65°	423.9	422.6	421.4	420.3	419.0	417.2	414.7	412.3	409.9	407.4	405.0
67.5°	363.0	361.9	360.8	359.7	358.5	356.8	354.4	352.1	349.7	347.5	345.1
70°	325.3	323.6	321.9	320.2	318.5	316.6	314.7	312.8	310.9	308.9	306.9
72.5°	285.0	283.3	281.6	279.9	278.2	276.6	275.0	273.5	271.9	270.3	268.8
75°	225.6	224.4	223.2	222.0	220.8	219.5	218.3	217.1	215.9	214.7	213.7
77.5°	168.9	168.3	167.8	167.3	166.8	166.0	164.9	163.8	162.7	161.7	161.4
80°	134.8	134.0	133.2	132.5	131.8	131.2	130.7	130.2	129.8	129.2	128.7
82.5°	101.4	101.1	100.8	100.4	100.1	99.8	99.7	99.7	99.6	99.4	99.2
85°	59.2	59.2	59.2	59.2	59.2	58.9	58.4	57.9	57.4	57.0	57.0
87.5°	23.0	23.1	23.4	23.3	23.3	23.1	23.8	23.6	23.8	23.8	23.7
90°	0.8	2.4	4.8	5.5	6.3	6.3	11.1	11.1	12.7	14.3	13.5
92.5°	9.0	13.2	20.6	30.2	41.7	58.2	98.4	159.8	219.5	250.9	209.0
95°	26.1	28.4	36.4	46.7	65.7	98.9	167.6	297.4	486.4	644.5	662.7
97.5°	46.8	46.8	53.6	63.1	79.4	107.3	160.3	267.3	455.2	678.8	832.6
100°	60.1	60.1	65.7	75.1	90.2	115.5	162.2	251.5	412.8	635.8	838.3
102.5°	72.7	74.0	78.9	87.8	102.2	126.2	168.4	247.1	384.4	582.1	790.8
105°	92.5	94.9	98.9	108.4	122.6	145.5	183.5	249.1	359.8	518.8	704.6
107.5°	114.4	116.0	119.9	130.0	143.6	166.2	201.1	260.8	355.4	483.4	635.0
110°	128.9	130.5	134.4	143.9	158.2	179.5	214.3	269.7	356.6	471.3	600.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.8	144.4	149.0	157.9	172.1	193.5	227.0	279.2	360.4	465.6	580.7
115°	163.0	165.2	170.8	178.7	193.8	215.1	246.8	294.2	367.7	462.6	562.3
117.5°	183.8	186.0	190.9	199.6	213.7	235.8	265.9	309.5	375.5	461.8	554.1
120°	197.7	199.3	204.9	213.5	227.0	249.1	279.2	320.3	381.2	461.8	549.6
122.5°	210.4	211.9	217.5	225.5	240.3	261.7	291.8	330.4	386.9	461.2	544.5
125°	227.0	230.1	234.9	243.6	258.6	280.7	309.2	345.6	395.5	460.3	536.2
127.5°	241.7	244.2	249.9	259.8	275.5	297.9	325.3	358.7	402.2	458.5	525.0
130°	249.9	253.1	259.4	271.2	286.3	309.2	336.1	366.9	407.3	457.9	518.0
132.5°	258.1	260.6	268.9	280.1	296.4	318.1	345.0	375.2	411.7	457.2	511.7
135°	269.7	272.8	280.7	294.2	310.8	331.4	357.4	386.0	418.4	456.3	502.2
137.5°	281.2	284.2	292.9	305.7	323.0	342.6	366.9	393.6	422.3	456.1	493.9
140°	289.5	291.8	300.6	313.9	330.6	349.6	373.3	398.5	425.5	455.5	489.6
142.5°	298.3	300.7	308.7	321.5	337.5	355.8	379.0	402.3	428.0	455.5	485.8
145°	310.8	313.1	321.1	332.2	347.2	364.6	385.2	406.5	429.4	453.9	479.3
147.5°	324.9	325.7	332.6	344.0	356.5	372.2	391.5	410.1	430.2	451.1	473.4
150°	333.7	334.5	340.9	350.4	362.2	377.2	394.7	412.0	430.2	449.2	469.0
152.5°	342.0	342.1	348.5	357.3	367.9	381.7	397.2	413.3	429.0	446.0	463.9
155°	353.5	354.3	359.0	366.9	375.7	387.5	400.9	414.4	427.1	441.3	456.3
157.5°	364.7	364.7	369.2	375.3	382.9	392.3	403.6	414.4	425.0	436.4	448.5
160°	371.7	371.7	374.9	380.4	386.7	395.5	404.9	414.4	423.1	432.6	442.9
162.5°	378.0	377.4	379.9	384.8	390.5	397.4	406.2	414.4	421.2	428.8	437.8
165°	385.2	385.2	386.7	390.7	394.7	399.3	406.5	412.8	417.6	423.1	429.4
167.5°	392.3	391.5	392.3	395.3	397.5	401.1	406.3	410.9	413.8	417.4	421.8
170°	395.5	394.7	395.5	397.8	399.3	401.7	405.7	409.6	411.2	413.6	416.8
172.5°	398.5	397.8	397.9	399.7	400.6	402.3	405.0	408.4	408.7	409.8	412.3
175°	401.7	400.9	400.9	401.7	402.5	402.5	404.1	406.5	405.7	405.7	407.3
177.5°	403.1	402.5	401.9	402.5	402.5	402.5	403.1	404.4	403.1	403.1	403.8
180°	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9
2.5°	1362.0	1364.0	1366.0	1366.8	1366.6	1366.4	1366.2	1366.0
5°	1354.7	1357.4	1360.1	1361.2	1360.7	1360.2	1359.7	1359.2
7.5°	1339.7	1341.8	1343.9	1344.9	1344.6	1344.3	1343.9	1343.7
10°	1327.0	1329.0	1330.9	1331.6	1331.1	1330.6	1330.2	1329.7
12.5°	1311.6	1313.8	1315.9	1316.6	1316.0	1315.3	1314.5	1313.9
15°	1282.2	1283.7	1285.2	1285.5	1284.8	1284.0	1283.3	1282.5
17.5°	1248.7	1249.7	1250.5	1250.8	1250.3	1249.8	1249.4	1248.8
20°	1223.8	1224.6	1225.3	1225.3	1224.9	1224.4	1223.9	1223.4
22.5°	1197.8	1199.1	1200.4	1200.6	1199.8	1198.9	1198.0	1197.1
25°	1154.9	1155.2	1155.4	1155.0	1154.1	1153.1	1152.1	1151.1
27.5°	1106.8	1106.2	1105.6	1104.8	1103.5	1102.3	1101.1	1099.9
30°	1073.6	1072.6	1071.7	1070.6	1069.4	1068.1	1066.9	1065.7
32.5°	1039.9	1038.8	1037.6	1036.4	1035.1	1034.0	1032.8	1031.5
35°	986.7	985.0	983.3	981.8	980.6	979.5	978.2	977.0
37.5°	931.0	929.2	927.3	925.6	924.0	922.3	920.8	919.2
40°	892.2	889.7	887.3	885.5	884.2	883.0	881.9	880.6
42.5°	854.6	851.8	848.9	847.1	846.3	845.4	844.6	843.8
45°	796.4	793.7	791.0	789.3	788.6	787.9	787.1	786.4
47.5°	740.1	737.0	734.0	731.6	729.8	727.9	726.0	724.2
50°	700.8	697.4	694.0	691.5	690.0	688.6	687.1	685.6
52.5°	660.4	657.3	654.3	651.9	650.0	648.2	646.3	644.4
55°	600.9	598.0	595.1	592.9	591.4	590.0	588.5	587.1
57.5°	541.5	538.7	535.9	533.8	532.3	531.0	529.6	528.1
60°	500.6	498.4	496.1	494.5	493.2	492.0	490.8	489.6
62.5°	460.7	458.6	456.6	455.0	453.8	452.6	451.4	450.2
65°	402.6	400.1	397.7	395.9	394.7	393.5	392.2	391.0
67.5°	342.8	340.4	338.1	336.8	336.4	336.0	335.7	335.4
70°	305.0	303.0	301.1	299.8	299.0	298.3	297.5	296.8
72.5°	267.2	265.6	264.1	262.9	262.2	261.5	260.8	260.0
75°	212.7	211.8	210.8	210.2	209.9	209.7	209.5	209.2
77.5°	161.1	160.8	160.5	160.0	159.4	158.8	158.1	157.5
80°	128.3	127.8	127.3	126.9	126.7	126.4	126.2	126.0
82.5°	98.9	98.5	98.3	98.0	97.8	97.5	97.3	97.0
85°	57.0	57.0	57.0	56.8	56.6	56.3	56.1	55.8
87.5°	23.8	24.0	24.2	24.2	24.3	24.5	24.3	24.3
90°	14.3	15.1	15.8	15.8	16.6	17.4	16.6	16.6
92.5°	155.3	116.9	93.0	77.2	67.9	63.6	60.9	60.9
95°	586.0	463.4	357.4	280.7	242.0	217.5	203.3	193.0
97.5°	865.9	820.2	742.9	660.4	603.6	556.0	532.3	515.8
100°	953.8	969.6	930.8	872.3	803.5	755.3	731.5	725.2
102.5°	949.4	1027.8	1039.0	1014.6	972.4	937.5	912.5	907.4
105°	885.7	1022.5	1100.8	1133.3	1134.9	1128.5	1117.5	1112.7
107.5°	795.4	941.1	1051.4	1121.9	1160.9	1179.0	1186.9	1189.0
110°	741.0	877.8	992.5	1079.5	1135.7	1168.9	1183.1	1190.3



TEST NUMBER: P332660-927

CATALOG NUMBER: S124DIP-S1020D1035U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	701.2	822.1	930.5	1017.5	1081.2	1121.4	1141.4	1152.9
115°	661.2	758.4	851.0	926.9	989.4	1036.8	1062.1	1068.4
117.5°	641.5	722.1	794.8	859.2	912.5	952.4	977.9	982.9
120°	632.6	706.2	769.5	825.6	870.7	905.5	926.1	934.8
122.5°	625.1	696.1	753.7	802.9	841.0	870.7	888.1	896.8
125°	612.1	680.1	734.7	778.2	809.8	832.7	847.8	852.5
127.5°	596.3	661.3	715.7	757.0	788.8	809.2	821.8	826.6
130°	583.7	646.1	699.9	741.8	774.2	794.0	806.7	811.4
132.5°	570.4	629.1	681.5	723.5	755.3	777.5	789.6	794.3
135°	552.0	603.4	651.6	691.2	722.9	745.0	757.6	762.4
137.5°	535.4	578.9	619.6	655.3	684.8	706.7	717.2	722.9
140°	525.9	563.1	598.7	631.8	659.6	677.0	688.0	694.3
142.5°	517.1	549.8	580.4	609.1	633.6	649.7	659.6	664.0
145°	504.5	531.5	555.2	577.3	597.1	610.5	618.5	622.4
147.5°	494.2	515.6	534.6	552.0	566.6	578.1	584.2	585.5
150°	488.0	506.1	522.0	536.2	548.8	559.1	563.9	564.7
152.5°	481.0	496.6	511.2	522.9	533.7	542.0	544.9	545.7
155°	470.6	483.2	495.0	504.5	512.5	518.8	521.2	521.2
157.5°	459.3	469.9	479.9	487.5	493.5	498.2	499.6	499.6
160°	452.3	461.1	469.8	476.1	480.9	485.6	486.4	486.4
162.5°	445.4	452.8	459.6	465.3	468.8	473.6	474.4	473.7
165°	435.8	440.5	446.0	450.0	453.1	456.3	455.5	454.7
167.5°	426.4	430.1	434.5	436.9	438.5	440.5	440.4	439.7
170°	420.7	423.1	426.3	428.6	430.2	431.0	430.2	430.2
172.5°	415.7	417.4	419.3	421.0	422.0	422.8	422.0	420.7
175°	408.8	409.6	411.2	411.2	411.2	412.8	411.2	409.6
177.5°	404.4	405.0	405.0	405.7	405.0	405.7	404.4	403.1
180°	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5

(END OF REPORT)