

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: P332693

Luminaire Tested: **S124DIP-S1195D810U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332693
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-S1195D810U835-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7757.7 lumens
Efficiency: N/A
Efficacy: 127.8 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

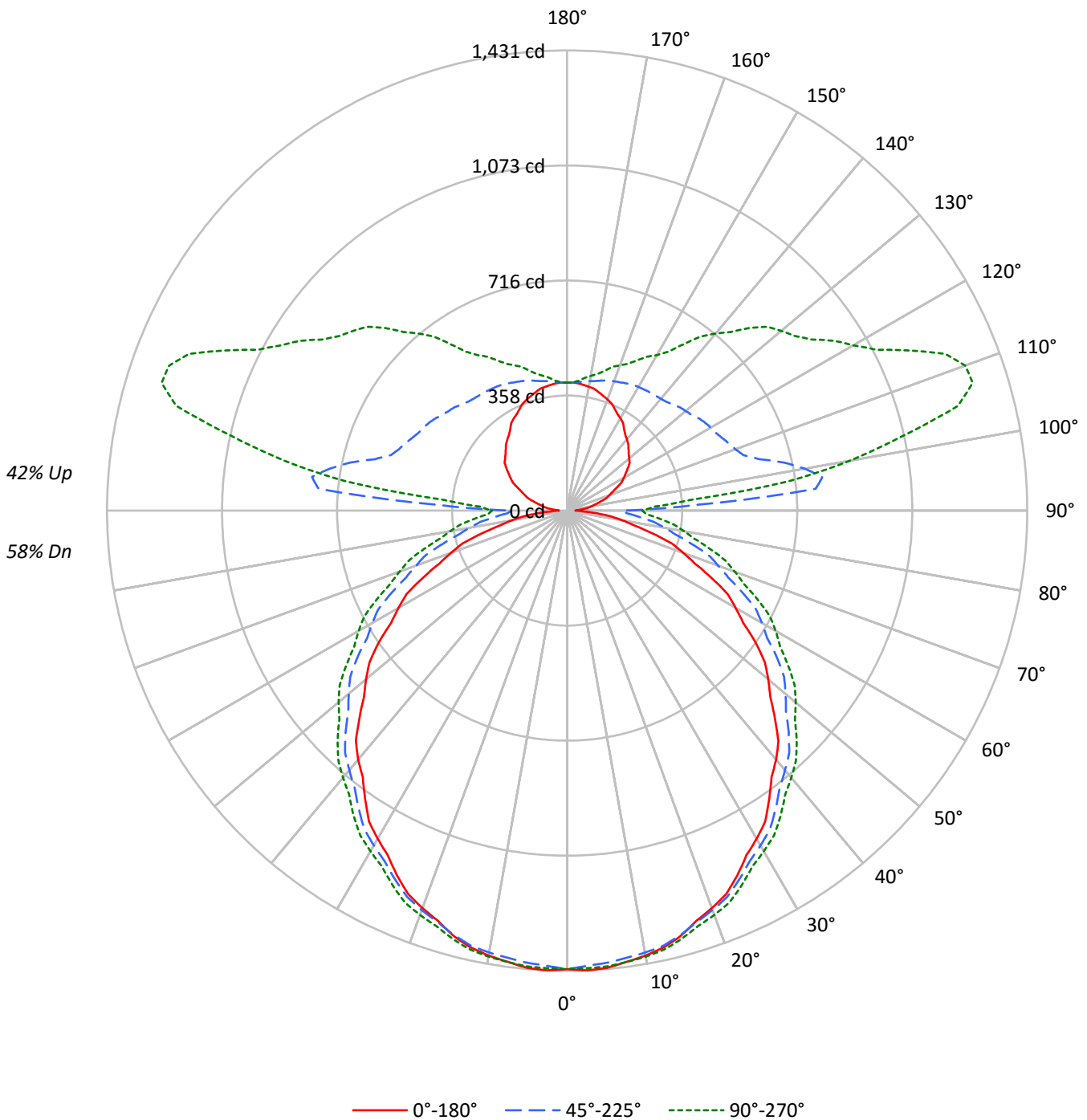
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	63	63	63	58																			
1	98	94	89	85	91	87	83	80	75	72	70	64	62	60	54	53	51	46																			
2	89	81	74	69	83	76	70	65	65	61	57	56	52	49	47	44	42	38																			
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	41	38	35	32																			
4	74	62	54	48	68	58	51	45	51	45	40	43	39	35	37	33	30	27																			
5	68	55	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23																			
6	62	50	41	35	58	46	39	33	41	34	30	35	30	26	30	26	23	20																			
7	58	45	36	31	53	42	34	29	37	31	26	32	27	23	27	23	20	18																			
8	53	41	33	27	50	38	31	26	33	27	23	29	24	21	25	21	18	16																			
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14																			
10	46	34	26	22	43	32	25	21	28	22	19	25	20	17	21	17	15	13																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11512	11512	11512
5°	11547	11251	11283
10°	11477	11067	11058
15°	11374	10854	10794
20°	11219	10619	10537
25°	11044	10355	10254
30°	10854	10093	9964
35°	10640	9824	9710
40°	10469	9569	9445
45°	10215	9334	9218
50°	10000	9062	8977
55°	9778	8806	8695
60°	9431	8480	8438
65°	9051	8130	8122
70°	8591	7730	7753
75°	7950	7291	7421
80°	7239	6868	7093
85°	6329	6495	6901



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.0	1.7
10°-20°	386.9	5.0
20°-30°	585.0	7.5
30°-40°	707.8	9.1
40°-50°	748.3	9.6
50°-60°	704.2	9.1
60°-70°	584.3	7.5
70°-80°	410.4	5.3
80°-90°	234.2	3.0
90°-100°	425.2	5.5
100°-110°	700.3	9.0
110°-120°	604.3	7.8
120°-130°	489.4	6.3
130°-140°	392.5	5.1
140°-150°	290.5	3.7
150°-160°	201.8	2.6
160°-170°	118.7	1.5
170°-180°	38.6	0.5
0°-30°	1106.9	14.3
0°-40°	1814.7	23.4
0°-60°	3267.3	42.1
0°-90°	4496.2	58.0
90°-120°	1729.8	22.3
90°-150°	2902.3	37.4
90°-180°	3261.0	42.0
0°-180°	7757.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1426	1426	1426	1426	1426	
5°	1428	1422	1412	1424	1423	135
15°	1368	1370	1365	1379	1378	385
25°	1252	1261	1266	1283	1285	576
35°	1095	1114	1130	1152	1158	686
45°	913	944	974	1000	1009	706
55°	715	750	797	828	838	637
65°	495	546	600	639	653	490
75°	275	334	401	444	460	292
85°	85	152	224	270	287	90
90°	26	96	172	218	234	18
95°	47	156	776	496	387	45
105°	106	180	618	1248	1258	114
115°	171	228	532	988	1178	170
125°	231	274	500	822	928	206
135°	270	321	466	703	803	209
145°	309	352	449	569	631	194
155°	350	377	436	494	515	161
165°	381	393	418	443	450	107
175°	397	398	401	407	405	38
180°	398	398	398	398	398	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0
2.5°	1431.1	1430.2	1429.4	1428.5	1427.7	1426.1	1423.8	1421.6	1419.3	1417.0	1419.0
5°	1427.5	1426.5	1425.4	1424.4	1423.3	1421.5	1419.0	1416.5	1414.1	1411.6	1414.4
7.5°	1415.4	1414.8	1414.1	1413.5	1412.9	1411.5	1409.5	1407.4	1405.3	1403.3	1406.5
10°	1405.2	1404.8	1404.5	1404.1	1403.8	1402.7	1400.9	1399.2	1397.4	1395.6	1398.8
12.5°	1391.1	1391.1	1391.0	1390.9	1390.9	1390.2	1389.0	1387.8	1386.6	1385.4	1388.3
15°	1368.5	1368.8	1369.2	1369.5	1369.9	1369.5	1368.5	1367.4	1366.3	1365.3	1368.5
17.5°	1337.5	1338.6	1339.6	1340.7	1341.7	1342.2	1342.0	1341.7	1341.5	1341.3	1344.6
20°	1315.8	1316.8	1317.9	1319.0	1320.0	1320.7	1321.1	1321.5	1321.8	1322.2	1325.7
22.5°	1291.5	1292.8	1294.2	1295.5	1296.9	1297.9	1298.5	1299.2	1299.8	1300.4	1304.0
25°	1251.9	1254.0	1256.2	1258.3	1260.4	1262.0	1263.1	1264.1	1265.2	1266.3	1270.2
27.5°	1207.8	1211.0	1214.1	1217.2	1220.3	1222.7	1224.3	1226.0	1227.6	1229.2	1232.8
30°	1178.4	1181.3	1184.1	1187.0	1189.8	1192.5	1194.9	1197.4	1199.9	1202.4	1206.3
32.5°	1146.5	1149.9	1153.3	1156.7	1160.1	1163.2	1166.0	1168.8	1171.5	1174.3	1178.8
35°	1095.4	1099.7	1103.9	1108.2	1112.4	1116.3	1119.9	1123.4	1127.0	1130.5	1135.5
37.5°	1044.0	1048.9	1053.8	1058.7	1063.6	1068.2	1072.6	1077.0	1081.4	1085.8	1090.9
40°	1010.8	1015.4	1020.0	1024.6	1029.2	1034.0	1039.0	1044.0	1048.9	1053.9	1059.2
42.5°	972.5	977.6	982.8	988.0	993.2	998.7	1004.5	1010.3	1016.1	1022.0	1027.9
45°	913.4	920.1	926.9	933.6	940.3	947.1	953.8	960.6	967.3	974.1	980.1
47.5°	856.8	863.8	870.8	877.7	884.7	892.1	899.9	907.7	915.5	923.3	929.5
50°	816.0	823.8	831.6	839.4	847.2	855.0	862.8	870.6	878.4	886.2	893.3
52.5°	775.1	782.9	790.7	798.5	806.3	814.7	823.6	832.6	841.5	850.5	857.6
55°	715.4	722.8	730.3	737.7	745.2	754.2	764.9	775.5	786.2	796.8	803.9
57.5°	648.6	657.9	667.1	676.3	685.5	695.4	706.0	716.6	727.2	737.7	746.2
60°	605.2	614.4	623.6	632.9	642.1	652.6	664.3	676.0	687.7	699.4	707.6
62.5°	563.0	573.1	583.2	593.3	603.3	614.2	626.0	637.7	649.4	661.1	669.2
65°	495.0	506.4	517.7	529.1	540.4	552.1	564.2	576.3	588.3	600.4	609.3
67.5°	429.5	441.6	453.7	465.7	477.8	490.3	503.2	516.1	529.0	542.0	551.0
70°	384.8	396.9	409.0	421.0	433.1	445.9	459.3	472.8	486.3	499.8	509.4
72.5°	341.4	353.7	366.1	378.4	390.8	404.1	418.5	432.8	447.1	461.5	470.8
75°	274.7	287.8	300.9	314.0	327.2	341.2	356.1	371.0	385.9	400.8	410.7
77.5°	212.4	226.3	240.2	254.1	268.0	282.8	298.4	314.0	329.6	345.2	355.3
80°	174.1	188.2	202.4	216.6	230.8	245.7	261.3	277.0	292.6	308.2	318.8
82.5°	135.7	150.5	165.3	180.0	194.8	210.0	225.6	241.2	256.8	272.4	283.3
85°	84.6	99.5	114.4	129.3	144.2	159.7	175.6	191.6	207.6	223.6	234.2
87.5°	47.4	62.2	77.2	91.8	106.4	121.4	137.9	153.5	169.3	185.2	195.3
90°	26.3	42.1	58.6	73.6	88.6	103.3	123.3	138.5	155.3	172.2	181.7
92.5°	33.2	50.0	70.2	92.5	116.7	146.9	201.9	277.9	352.2	398.4	367.0
95°	46.6	60.6	80.1	102.0	132.5	178.5	261.0	403.8	605.3	776.2	803.8
97.5°	65.1	75.2	92.0	111.5	137.7	177.4	244.2	364.5	564.7	800.2	961.5
100°	77.0	86.2	100.9	119.5	143.6	180.2	240.1	342.3	515.7	750.0	959.8
102.5°	89.5	98.8	111.8	128.6	151.0	185.5	240.9	332.1	481.4	690.5	906.2
105°	105.9	115.3	126.3	142.8	164.0	196.7	247.4	325.4	448.0	618.3	811.0
107.5°	127.1	134.5	144.2	160.1	179.3	210.8	257.6	329.2	435.1	574.0	732.7
110°	140.2	146.8	155.6	170.0	189.0	218.8	265.7	332.8	431.2	557.0	692.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	152.7	158.7	167.6	180.8	199.2	228.5	273.5	336.9	429.2	545.0	666.6
115°	170.7	176.2	184.9	195.9	213.9	242.3	284.9	343.2	427.3	532.5	638.8
117.5°	191.0	195.1	201.8	212.4	228.2	256.3	296.6	350.4	426.2	522.1	620.7
120°	203.5	206.1	212.6	222.3	236.7	264.2	304.2	355.2	425.7	515.7	609.6
122.5°	216.0	217.8	223.4	231.6	246.4	272.6	312.1	359.9	425.5	508.7	598.2
125°	230.8	233.6	237.9	246.2	260.7	286.8	323.8	368.7	426.8	499.8	581.6
127.5°	245.0	247.2	252.4	261.9	277.1	302.3	336.4	376.2	426.0	488.5	560.6
130°	251.9	254.7	260.6	271.9	286.4	311.8	344.0	380.2	425.8	481.5	547.3
132.5°	260.0	262.2	269.9	280.7	296.4	320.0	351.1	385.5	426.2	475.7	535.6
135°	269.8	273.0	280.8	294.1	310.5	332.1	360.3	391.0	425.5	465.5	516.6
137.5°	281.2	283.9	292.1	304.4	321.1	340.9	366.2	393.7	423.4	458.0	500.6
140°	289.4	291.4	299.6	312.6	328.6	347.4	371.2	396.6	423.5	453.6	491.8
142.5°	296.9	299.1	307.0	319.6	335.4	353.4	376.0	398.9	424.0	451.0	484.9
145°	308.9	310.9	318.3	328.9	343.4	360.5	380.8	401.9	424.6	448.8	476.0
147.5°	322.8	323.2	329.8	340.7	352.7	368.0	387.1	405.5	425.4	446.0	468.3
150°	331.6	332.0	337.9	346.9	358.3	373.0	390.2	407.4	425.4	444.1	463.7
152.5°	338.4	338.5	344.7	353.4	363.8	377.4	392.7	408.6	424.1	441.0	458.7
155°	349.5	350.3	355.0	362.8	371.4	383.1	396.4	409.7	422.2	436.3	451.2
157.5°	360.6	360.6	365.0	371.1	378.6	387.8	399.1	409.7	420.2	431.5	443.5
160°	367.5	367.5	370.6	376.1	382.4	391.0	400.3	409.7	418.3	427.7	437.9
162.5°	373.8	373.1	375.6	380.5	386.1	392.8	401.6	409.7	416.5	424.0	432.9
165°	380.8	380.8	382.4	386.3	390.2	394.9	401.9	408.2	412.9	418.3	424.6
167.5°	387.8	387.1	387.8	390.8	393.0	396.6	401.8	406.3	409.1	412.7	417.1
170°	391.0	390.2	391.0	393.3	394.9	397.2	401.1	405.0	406.6	408.9	412.1
172.5°	394.1	393.3	393.5	395.2	396.1	397.8	400.5	403.8	404.1	405.2	407.7
175°	397.2	396.4	396.4	397.2	398.0	398.0	399.6	401.9	401.1	401.1	402.7
177.5°	398.6	398.0	397.4	398.0	398.0	398.0	398.6	399.9	398.6	398.6	399.2
180°	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0
2.5°	1421.0	1423.0	1425.0	1425.8	1425.5	1425.2	1425.0	1424.7
5°	1417.3	1420.1	1422.9	1424.2	1423.8	1423.5	1423.1	1422.8
7.5°	1409.7	1412.9	1416.1	1417.5	1417.1	1416.8	1416.4	1416.1
10°	1402.0	1405.2	1408.4	1409.8	1409.5	1409.1	1408.7	1408.4
12.5°	1391.2	1394.1	1397.0	1398.5	1398.4	1398.3	1398.2	1398.2
15°	1371.7	1374.9	1378.0	1379.5	1379.1	1378.8	1378.4	1378.0
17.5°	1347.9	1351.1	1354.4	1355.9	1355.6	1355.3	1355.0	1354.7
20°	1329.3	1332.8	1336.4	1338.1	1338.1	1338.1	1338.1	1338.1
22.5°	1307.5	1311.1	1314.6	1316.7	1317.3	1317.8	1318.4	1319.0
25°	1274.1	1278.0	1281.9	1284.0	1284.4	1284.7	1285.1	1285.4
27.5°	1236.5	1240.1	1243.7	1245.7	1246.2	1246.6	1247.0	1247.4
30°	1210.2	1214.1	1218.0	1220.3	1221.0	1221.7	1222.4	1223.2
32.5°	1183.2	1187.7	1192.2	1194.8	1195.5	1196.2	1196.9	1197.6
35°	1140.5	1145.4	1150.4	1153.4	1154.5	1155.6	1156.6	1157.7
37.5°	1095.9	1100.9	1106.0	1109.1	1110.2	1111.3	1112.5	1113.6
40°	1064.5	1069.9	1075.2	1078.6	1080.0	1081.4	1082.8	1084.2
42.5°	1033.7	1039.6	1045.5	1049.0	1050.2	1051.3	1052.4	1053.6
45°	986.1	992.2	998.2	1002.1	1003.9	1005.6	1007.4	1009.2
47.5°	935.8	942.0	948.3	952.4	954.6	956.7	958.8	961.0
50°	900.4	907.5	914.6	919.2	921.4	923.5	925.6	927.7
52.5°	864.7	871.8	878.8	883.5	885.6	887.7	889.8	892.0
55°	811.0	818.1	825.2	829.8	831.9	834.1	836.2	838.3
57.5°	754.6	763.1	771.5	776.7	778.7	780.7	782.7	784.7
60°	715.7	723.9	732.0	737.5	740.4	743.2	746.1	748.9
62.5°	677.4	685.6	693.7	699.2	702.1	704.9	707.7	710.6
65°	618.1	627.0	635.9	641.7	644.6	647.4	650.3	653.1
67.5°	560.0	569.0	578.0	583.9	586.7	589.4	592.2	595.0
70°	519.0	528.5	538.1	544.2	546.6	549.1	551.6	554.1
72.5°	480.1	489.4	498.7	504.7	507.5	510.2	513.0	515.8
75°	420.7	430.6	440.5	447.1	450.3	453.5	456.7	459.9
77.5°	365.4	375.5	385.5	392.3	395.7	399.1	402.5	405.9
80°	329.5	340.1	350.8	357.5	360.3	363.2	366.0	368.9
82.5°	294.3	305.2	316.1	323.2	326.3	329.4	332.5	335.6
85°	244.8	255.5	266.1	273.2	276.8	280.3	283.9	287.4
87.5°	205.8	216.2	226.6	233.4	236.6	239.9	242.9	246.0
90°	192.7	203.8	214.9	221.4	225.1	228.7	230.7	233.6
92.5°	324.0	296.0	282.4	273.2	266.8	265.4	265.6	268.4
95°	737.5	625.9	530.7	461.2	426.1	405.0	394.2	387.2
97.5°	1003.7	967.9	900.7	825.3	772.2	728.2	707.8	694.6
100°	1083.5	1108.7	1080.0	1028.2	962.6	917.4	896.4	892.7
102.5°	1072.2	1159.0	1179.4	1161.4	1122.4	1090.6	1068.7	1066.4
105°	998.9	1143.0	1229.3	1267.2	1271.6	1268.2	1260.1	1258.2
107.5°	900.0	1052.8	1170.5	1245.9	1287.1	1307.5	1317.9	1322.4
110°	840.0	983.4	1105.0	1196.5	1254.8	1290.5	1307.4	1317.3



TEST NUMBER: P332693

CATALOG NUMBER: S124DIP-S1195D810U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	793.6	921.2	1036.2	1127.5	1193.4	1235.9	1258.5	1272.7
115°	744.4	848.3	947.6	1027.8	1092.1	1141.5	1169.0	1177.7
117.5°	714.5	801.5	880.8	949.6	1005.1	1047.4	1075.5	1083.2
120°	698.8	778.6	848.3	908.8	956.2	993.4	1016.6	1028.0
122.5°	684.9	762.2	826.3	879.7	920.0	951.9	971.7	982.8
125°	663.4	737.4	798.1	845.5	878.9	903.7	920.7	927.5
127.5°	637.5	708.1	768.3	813.5	847.4	870.0	884.9	892.0
130°	618.6	686.7	746.3	792.0	826.2	847.9	862.5	869.3
132.5°	599.8	663.9	721.9	767.5	801.0	825.2	839.2	846.0
135°	571.5	628.0	681.4	724.4	757.8	781.8	796.5	803.3
137.5°	546.7	594.9	640.3	679.1	710.1	733.5	745.6	753.0
140°	532.4	573.8	613.6	649.6	678.7	697.7	710.4	718.5
142.5°	520.0	556.4	590.6	621.8	647.6	665.0	676.2	682.1
145°	503.1	531.8	557.4	581.1	602.1	616.8	626.0	631.3
147.5°	489.3	510.7	529.7	547.6	563.2	575.7	582.8	585.3
150°	482.4	500.4	516.1	530.1	542.7	552.8	557.5	558.3
152.5°	475.6	491.0	505.4	517.0	527.6	535.9	538.7	539.5
155°	465.2	477.8	489.5	498.9	506.7	512.9	515.3	515.3
157.5°	454.1	464.6	474.5	482.0	487.9	492.6	494.0	494.0
160°	447.3	455.9	464.5	470.7	475.4	480.1	480.9	480.9
162.5°	440.4	447.7	454.5	460.1	463.5	468.2	469.0	468.4
165°	430.8	435.5	441.0	444.9	448.0	451.2	450.4	449.6
167.5°	421.6	425.2	429.6	431.9	433.5	435.5	435.4	434.7
170°	416.0	418.3	421.5	423.8	425.4	426.1	425.4	425.4
172.5°	411.0	412.7	414.6	416.3	417.2	418.0	417.2	416.0
175°	404.3	405.0	406.6	406.6	406.6	408.2	406.6	405.0
177.5°	399.9	400.5	400.5	401.1	400.5	401.1	399.9	398.6
180°	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0

(END OF REPORT)