

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: P332684

Luminaire Tested: **S124DIP-S1195D590U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332684
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-S1195D590U835-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6974.2 lumens
Efficiency: N/A
Efficacy: 126.6 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: Semi-Direct

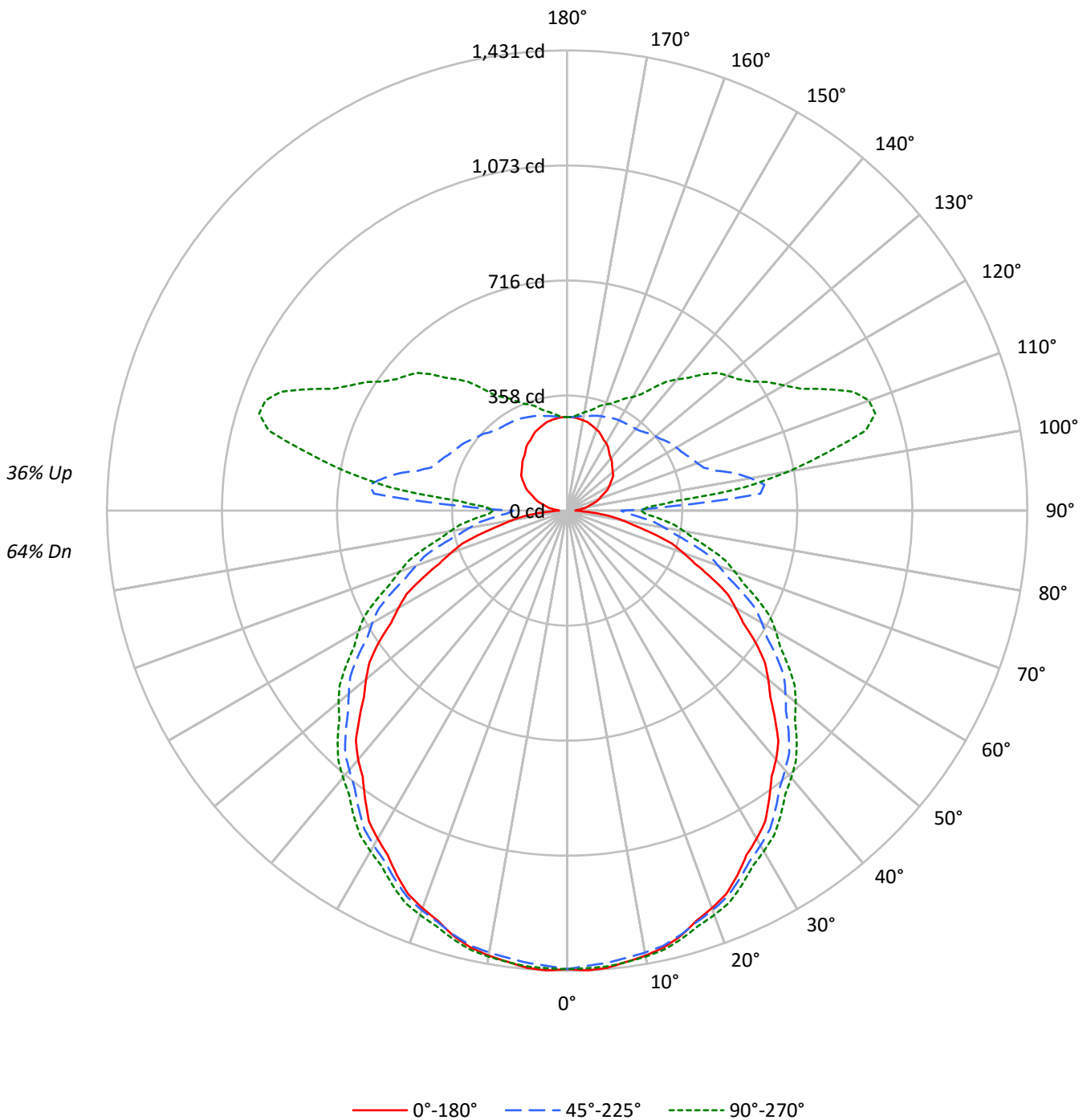
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	69	69	69	64
1	100	95	90	86	93	89	85	81	78	75	72	68	66	64	59	58	56	52
2	90	82	75	69	84	77	71	66	68	63	59	59	56	52	51	49	46	42
3	82	72	64	57	77	67	60	54	59	54	49	52	47	44	45	42	39	35
4	75	63	55	48	70	59	52	46	53	46	41	46	41	37	40	36	33	30
5	69	56	47	41	64	53	45	39	47	40	36	41	36	32	36	32	28	25
6	63	50	42	35	59	47	40	34	42	36	31	37	32	28	32	28	25	22
7	58	45	37	31	55	43	35	30	38	32	27	34	28	25	30	25	22	20
8	54	41	33	27	51	39	32	26	35	29	24	31	26	22	27	23	20	17
9	51	38	30	24	47	36	28	23	32	26	22	28	23	20	25	21	18	16
10	47	35	27	22	44	33	26	21	29	23	19	26	21	18	23	19	16	14

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	1.9
10°-20°	386.9	5.5
20°-30°	585.0	8.4
30°-40°	707.8	10.1
40°-50°	748.3	10.7
50°-60°	704.2	10.1
60°-70°	584.3	8.4
70°-80°	410.4	5.9
80°-90°	233.6	3.3
90°-100°	347.5	5.0
100°-110°	538.5	7.7
110°-120°	459.4	6.6
120°-130°	367.5	5.3
130°-140°	290.9	4.2
140°-150°	212.9	3.1
150°-160°	147.3	2.1
160°-170°	86.6	1.2
170°-180°	28.2	0.4
0°-30°	1106.9	15.9
0°-40°	1814.7	26.0
0°-60°	3267.3	46.8
0°-90°	4495.6	64.5
90°-120°	1345.4	19.3
90°-150°	2216.6	31.8
90°-180°	2479.0	35.5
0°-180°	6974.2	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	94	168	214	229	18
95°	40	133	604	411	336	38
105°	81	144	480	950	961	87
115°	127	173	409	750	892	127
125°	170	202	377	620	700	152
135°	198	235	344	523	599	153
145°	226	257	327	418	465	142
155°	255	275	318	360	376	118
165°	278	286	305	323	328	78
175°	290	290	293	297	296	27
180°	290	290	290	290	290	



TEST NUMBER: P332684

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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	62.1	76.9	91.5	106.1	121.1	137.3	152.9	168.6	184.4	194.6
90°	26.1	41.5	57.4	72.1	86.9	101.6	120.3	135.6	152.0	168.4	178.1
92.5°	30.8	46.5	64.7	84.4	105.5	131.4	175.6	235.1	293.5	331.4	311.1
95°	39.6	53.0	70.4	89.5	114.9	152.0	216.2	324.3	475.2	603.8	626.5
97.5°	52.6	62.7	77.7	94.6	116.4	148.7	201.4	293.0	443.0	618.7	738.9
100°	60.9	70.1	83.4	99.4	119.5	149.3	196.8	275.1	405.3	580.0	735.6
102.5°	70.0	79.0	90.7	105.2	123.6	151.8	195.8	266.1	378.7	534.8	694.7
105°	81.1	89.9	99.9	113.8	131.2	157.8	198.3	258.8	351.8	479.6	622.5
107.5°	96.5	103.5	112.2	125.3	140.9	166.4	203.9	259.4	340.1	444.8	562.9
110°	105.8	111.9	119.7	131.5	146.7	170.8	208.4	260.7	335.9	431.0	532.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	114.5	120.1	127.8	138.6	153.2	176.8	212.8	262.3	332.8	420.5	511.3
115°	127.1	132.0	139.2	148.1	162.1	184.8	219.0	264.5	329.0	408.8	488.4
117.5°	141.8	145.3	150.8	159.0	171.1	193.3	225.5	267.6	325.7	398.6	472.5
120°	150.6	152.8	157.9	165.2	176.0	197.6	229.6	269.5	323.7	392.2	462.6
122.5°	159.7	161.1	165.3	171.3	182.1	202.6	234.0	271.6	322.0	385.4	452.6
125°	170.1	172.0	175.1	181.0	191.5	211.7	241.1	276.3	321.1	376.7	438.2
127.5°	180.4	181.9	185.6	192.5	203.4	222.7	249.4	280.3	318.4	365.9	420.2
130°	185.1	187.0	191.2	199.4	209.9	229.1	254.2	282.1	316.8	359.0	408.8
132.5°	191.0	192.5	198.0	205.8	217.2	234.9	258.8	285.2	316.1	353.5	398.8
135°	197.7	200.0	205.7	215.4	227.4	243.5	264.8	287.8	313.7	343.5	382.3
137.5°	206.0	207.9	213.8	222.7	234.7	249.3	268.1	288.5	310.4	336.1	368.5
140°	212.0	213.3	219.3	228.6	240.2	253.9	271.4	290.0	309.7	331.8	360.9
142.5°	217.1	218.7	224.5	233.6	245.1	258.2	274.6	291.3	309.6	329.2	355.1
145°	225.8	227.1	232.5	240.1	250.6	263.0	277.8	293.2	309.8	327.4	347.8
147.5°	235.9	236.2	240.8	248.7	257.3	268.5	282.4	295.8	310.3	325.4	341.8
150°	242.3	242.5	246.8	253.2	261.4	272.1	284.7	297.2	310.3	324.0	338.3
152.5°	247.0	247.0	251.5	257.8	265.4	275.3	286.5	298.1	309.4	321.7	334.6
155°	255.0	255.6	259.0	264.7	271.0	279.5	289.2	298.9	308.0	318.3	329.1
157.5°	263.1	263.1	266.3	270.7	276.2	282.9	291.2	298.9	306.6	314.8	323.6
160°	268.1	268.1	270.4	274.4	278.9	285.2	292.1	298.9	305.2	312.0	319.5
162.5°	272.7	272.2	274.0	277.6	281.7	286.6	293.0	298.9	303.8	309.3	315.8
165°	277.8	277.8	278.9	281.8	284.7	288.1	293.2	297.8	301.2	305.2	309.8
167.5°	282.9	282.4	282.9	285.1	286.7	289.3	293.1	296.4	298.5	301.1	304.3
170°	285.2	284.7	285.2	286.9	288.1	289.8	292.6	295.5	296.6	298.3	300.6
172.5°	287.5	286.9	287.0	288.3	289.0	290.2	292.2	294.6	294.8	295.6	297.4
175°	289.8	289.2	289.2	289.8	290.4	290.4	291.5	293.2	292.6	292.6	293.8
177.5°	290.8	290.4	289.9	290.4	290.4	290.4	290.8	291.7	290.8	290.8	291.3
180°	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4



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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°	205.0	215.4	225.8	232.5	235.7	239.0	242.0	245.1
90°	188.9	199.8	210.7	217.2	220.6	224.0	226.3	229.1
92.5°	282.5	264.8	257.5	252.5	248.7	248.4	249.3	252.1
95°	580.8	501.9	435.1	386.1	361.4	346.9	339.8	335.6
97.5°	772.1	748.6	702.1	648.7	610.8	579.5	565.5	556.6
100°	828.5	849.5	831.1	794.9	747.8	715.5	700.8	698.8
102.5°	818.3	884.2	901.6	890.1	862.4	839.9	824.7	823.8
105°	762.0	869.6	934.9	964.2	968.2	966.4	961.3	960.7
107.5°	687.3	801.2	889.4	945.9	976.7	992.2	1000.5	1004.5
110°	641.9	748.7	839.6	907.8	951.2	978.0	991.1	999.0



TEST NUMBER: P332684

CATALOG NUMBER: S124DIP-S1195D590U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	606.1	701.3	787.3	855.4	904.3	936.1	953.3	964.5
115°	567.6	645.5	720.1	780.0	827.5	864.2	885.0	892.0
117.5°	543.0	608.4	668.3	719.8	761.1	792.7	814.0	820.4
120°	529.6	589.8	642.5	688.0	723.3	751.3	768.9	778.1
122.5°	517.8	576.1	624.7	665.0	695.1	719.1	734.2	743.0
125°	499.7	555.5	601.6	637.4	662.4	681.1	694.0	699.6
127.5°	478.0	531.3	576.9	611.1	636.5	653.6	665.1	671.0
130°	462.5	514.0	559.1	593.6	619.1	635.5	646.8	652.3
132.5°	447.2	495.7	539.7	574.0	599.1	617.3	628.1	633.6
135°	423.9	466.7	507.1	539.6	564.5	582.6	593.9	599.4
137.5°	403.6	440.1	474.6	503.9	527.0	544.5	553.8	559.7
140°	391.8	423.2	453.5	480.6	502.4	516.7	526.5	532.8
142.5°	381.7	409.4	435.4	458.9	478.1	491.2	499.8	504.5
145°	368.2	389.7	409.0	426.7	442.4	453.5	460.6	464.9
147.5°	357.1	372.8	386.8	400.0	411.7	421.1	426.6	428.7
150°	352.0	365.1	376.5	386.8	395.9	403.3	406.7	407.3
152.5°	346.9	358.2	368.7	377.2	384.9	391.0	393.0	393.6
155°	339.4	348.5	357.1	363.9	369.7	374.2	375.9	375.9
157.5°	331.3	339.0	346.1	351.6	356.0	359.4	360.4	360.4
160°	326.3	332.6	338.8	343.4	346.8	350.3	350.8	350.8
162.5°	321.3	326.6	331.5	335.7	338.2	341.6	342.2	341.7
165°	314.3	317.7	321.7	324.6	326.9	329.1	328.6	328.0
167.5°	307.6	310.2	313.4	315.1	316.3	317.7	317.6	317.2
170°	303.5	305.2	307.5	309.2	310.3	310.9	310.3	310.3
172.5°	299.8	301.1	302.5	303.7	304.4	305.0	304.4	303.5
175°	294.9	295.5	296.6	296.6	296.6	297.8	296.6	295.5
177.5°	291.7	292.2	292.2	292.6	292.2	292.6	291.7	290.8
180°	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4

(END OF REPORT)