

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: P332844

Luminaire Tested: **S124DIW-S1195D770U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332844
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D770U835-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7526.2 lumens
Efficiency: N/A
Efficacy: 125.9 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

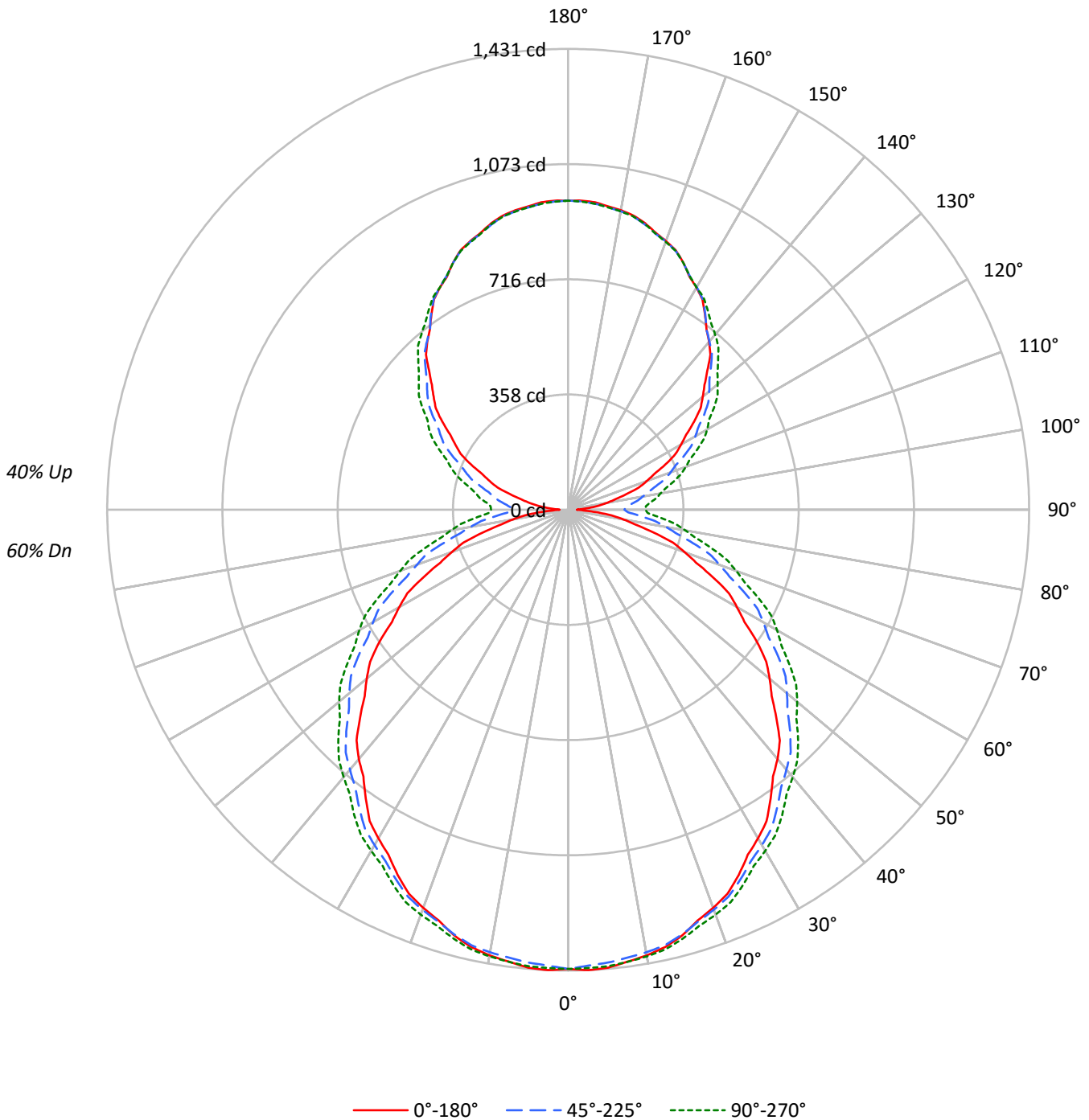
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60								
1	99	94	89	85	92	88	84	80	76	73	70	65	63	61	56	54	53	48								
2	89	81	74	69	83	76	70	65	66	61	57	57	53	50	48	46	43	39								
3	81	71	63	57	75	66	59	54	58	52	48	50	45	42	42	39	36	32								
4	74	63	54	48	69	59	51	45	51	45	40	44	39	36	38	34	31	27								
5	68	56	47	41	63	52	44	39	46	39	35	39	34	31	34	30	27	24								
6	63	50	41	35	58	47	39	33	41	35	30	36	31	27	30	26	23	21								
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	28	24	21	18								
8	54	41	33	27	50	38	31	26	34	28	23	30	25	21	25	21	18	16								
9	50	37	29	24	47	35	28	23	31	25	21	27	22	19	23	20	17	14								
10	47	34	27	22	44	32	25	21	29	23	19	25	20	17	22	18	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	1.8
10°-20°	386.9	5.1
20°-30°	585.0	7.8
30°-40°	707.8	9.4
40°-50°	748.3	9.9
50°-60°	704.2	9.4
60°-70°	584.3	7.8
70°-80°	410.4	5.5
80°-90°	234.9	3.1
90°-100°	201.1	2.7
100°-110°	289.5	3.8
110°-120°	386.7	5.1
120°-130°	458.3	6.1
130°-140°	488.0	6.5
140°-150°	466.5	6.2
150°-160°	389.5	5.2
160°-170°	259.1	3.4
170°-180°	90.7	1.2
0°-30°	1106.9	14.7
0°-40°	1814.7	24.1
0°-60°	3267.3	43.4
0°-90°	4496.9	59.7
90°-120°	877.2	11.7
90°-150°	2289.9	30.4
90°-180°	3029.0	40.2
0°-180°	7526.2	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°	28	100	174	223	239	20
95°	65	125	195	239	255	66
105°	187	222	282	323	339	200
115°	333	350	397	430	442	329
125°	478	478	515	543	552	426
135°	611	616	627	650	658	473
145°	740	741	742	751	755	463
155°	846	846	845	848	845	389
165°	921	919	917	921	919	260
175°	958	955	954	958	954	91
180°	960	960	960	960	960	



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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°	47.7	62.6	77.4	92.2	107.1	122.4	138.2	154.0	169.8	185.6	196.1
90°	27.8	43.8	59.8	75.8	91.8	108.1	124.7	141.3	157.8	174.4	185.7
92.5°	40.2	55.0	69.9	84.7	99.6	115.1	131.3	147.4	163.6	179.8	190.4
95°	65.3	78.5	91.7	104.9	118.1	132.5	148.2	163.9	179.6	195.3	205.4
97.5°	96.6	107.9	119.2	130.4	141.7	155.2	171.0	186.7	202.5	218.2	228.1
100°	121.5	131.4	141.2	151.1	161.0	173.6	188.9	204.3	219.6	234.9	244.8
102.5°	148.8	157.1	165.5	173.8	182.2	193.8	208.7	223.6	238.6	253.5	263.2
105°	187.3	194.6	201.8	209.1	216.3	226.9	240.7	254.5	268.2	282.0	291.4
107.5°	230.8	236.8	242.8	248.8	254.8	264.1	276.6	289.1	301.7	314.2	323.4
110°	259.2	264.5	269.8	275.1	280.4	289.1	301.4	313.7	325.9	338.2	346.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	288.8	293.2	297.7	302.2	306.6	314.7	326.2	337.8	349.3	360.9	368.7
115°	333.2	336.4	339.6	342.8	345.9	353.1	364.1	375.1	386.1	397.2	404.8
117.5°	376.5	378.5	380.6	382.6	384.7	390.9	401.2	411.6	421.9	432.3	439.1
120°	404.3	406.0	407.8	409.5	411.2	417.0	426.8	436.6	446.4	456.2	462.4
122.5°	434.6	435.1	435.5	436.0	436.5	441.5	451.0	460.5	470.0	479.5	486.0
125°	477.7	477.3	477.0	476.6	476.3	480.4	489.1	497.8	506.6	515.3	521.7
127.5°	517.9	518.0	518.2	518.3	518.4	521.8	528.3	534.9	541.4	548.0	554.0
130°	545.1	545.2	545.4	545.5	545.7	548.6	554.2	559.9	565.6	571.3	577.3
132.5°	574.2	574.2	574.2	574.2	574.2	576.4	580.8	585.3	589.7	594.1	599.9
135°	611.0	612.0	613.0	614.0	615.0	616.7	619.2	621.7	624.2	626.7	632.0
137.5°	652.9	653.0	653.1	653.2	653.3	654.1	655.6	657.1	658.5	660.0	664.8
140°	680.8	680.8	680.8	680.7	680.7	680.9	681.2	681.6	681.9	682.3	686.7
142.5°	705.1	705.3	705.6	705.8	706.1	706.1	705.7	705.4	705.0	704.7	708.7
145°	740.1	740.4	740.7	741.0	741.3	741.5	741.7	741.9	742.0	742.2	744.2
147.5°	775.1	775.5	776.0	776.4	776.9	777.0	776.9	776.7	776.6	776.5	776.6
150°	796.5	796.8	797.1	797.4	797.7	797.9	797.9	797.9	797.9	797.9	797.9
152.5°	815.4	815.7	816.0	816.4	816.7	816.9	817.0	817.2	817.3	817.4	817.8
155°	846.1	846.1	846.1	846.1	846.1	846.0	845.8	845.7	845.5	845.4	846.0
157.5°	872.2	871.9	871.6	871.3	871.0	870.9	870.8	870.8	870.8	870.7	871.2
160°	887.7	887.5	887.3	887.2	887.0	886.8	886.7	886.5	886.3	886.2	886.7
162.5°	901.9	901.5	901.0	900.6	900.2	899.9	899.7	899.6	899.4	899.2	900.1
165°	921.1	920.6	920.1	919.6	919.1	918.7	918.3	918.0	917.7	917.3	918.3
167.5°	935.7	935.1	934.4	933.7	933.0	932.6	932.7	932.7	932.7	932.8	933.8
170°	944.1	943.2	942.4	941.6	940.8	940.4	940.6	940.8	940.9	941.1	942.1
172.5°	950.0	949.3	948.6	947.9	947.2	946.9	946.9	947.0	947.0	947.0	948.2
175°	958.2	957.3	956.5	955.7	954.9	954.4	954.2	954.0	953.9	953.7	954.9
177.5°	960.8	960.2	959.5	958.9	958.2	957.9	957.9	957.9	957.9	957.9	958.8
180°	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6



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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°	206.6	217.1	227.6	234.4	237.6	240.8	244.0	247.2
90°	197.0	208.3	219.5	226.8	229.9	233.1	236.3	239.4
92.5°	201.0	211.6	222.2	229.0	232.1	235.1	238.1	241.2
95°	215.5	225.6	235.6	242.3	245.5	248.7	251.8	255.0
97.5°	238.0	247.9	257.8	264.3	267.3	270.4	273.4	276.5
100°	254.7	264.6	274.6	280.8	283.2	285.7	288.2	290.7
102.5°	273.0	282.7	292.5	298.8	301.7	304.6	307.5	310.4
105°	300.8	310.1	319.5	325.8	329.2	332.5	335.8	339.2
107.5°	332.6	341.8	350.9	356.8	359.3	361.8	364.4	366.9
110°	353.8	361.7	369.5	375.1	378.4	381.7	385.1	388.4



TEST NUMBER: P332844

CATALOG NUMBER: S124DIW-S1195D770U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	376.5	384.3	392.1	397.5	400.4	403.4	406.3	409.2
115°	412.4	420.1	427.7	432.7	435.0	437.3	439.7	442.0
117.5°	445.9	452.7	459.5	464.2	466.7	469.2	471.7	474.2
120°	468.7	475.0	481.2	486.0	489.1	492.3	495.5	498.6
122.5°	492.5	499.1	505.6	509.8	511.8	513.8	515.7	517.7
125°	528.1	534.5	540.9	545.0	546.8	548.6	550.4	552.2
127.5°	560.1	566.2	572.2	576.3	578.5	580.6	582.8	584.9
130°	583.4	589.5	595.5	599.3	600.7	602.2	603.7	605.2
132.5°	605.6	611.4	617.2	621.0	622.9	624.7	626.6	628.5
135°	637.4	642.7	648.1	651.6	653.2	654.8	656.5	658.1
137.5°	669.5	674.3	679.0	682.3	684.2	686.1	687.9	689.8
140°	691.2	695.6	700.1	703.1	704.7	706.3	707.9	709.6
142.5°	712.7	716.7	720.7	723.5	724.9	726.4	727.8	729.3
145°	746.1	748.1	750.0	751.5	752.4	753.3	754.3	755.2
147.5°	776.8	776.9	777.1	777.6	778.6	779.6	780.6	781.5
150°	797.9	797.9	797.9	797.8	797.6	797.4	797.3	797.1
152.5°	818.2	818.6	819.0	819.0	818.6	818.2	817.7	817.3
155°	846.7	847.3	848.0	848.0	847.3	846.7	846.0	845.4
157.5°	871.7	872.2	872.7	872.7	872.1	871.6	871.0	870.4
160°	887.2	887.7	888.2	888.0	887.2	886.3	885.5	884.7
162.5°	901.0	901.9	902.8	902.8	902.0	901.2	900.4	899.5
165°	919.3	920.3	921.3	921.5	920.8	920.1	919.5	918.8
167.5°	934.8	935.7	936.7	936.7	935.7	934.7	933.7	932.6
170°	943.1	944.1	945.1	945.0	943.8	942.7	941.5	940.4
172.5°	949.3	950.4	951.5	951.5	950.3	949.2	948.0	946.9
175°	956.0	957.2	958.3	958.3	957.2	956.0	954.9	953.7
177.5°	959.7	960.6	961.6	961.5	960.4	959.4	958.3	957.3
180°	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6

(END OF REPORT)