

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: P331369

Luminaire Tested: **S122DIP-S675D1080U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331369  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S675D1080U835-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

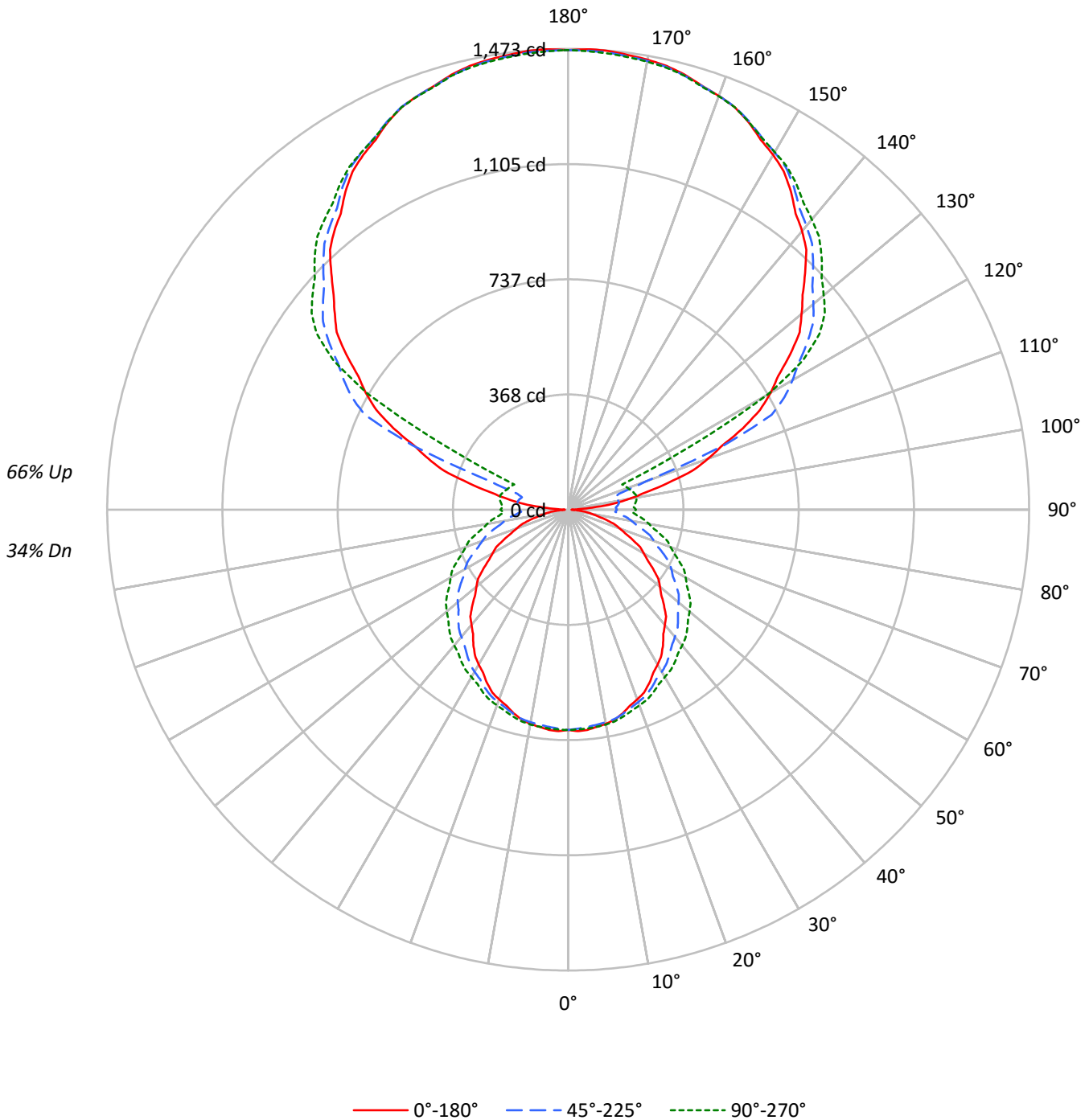
Lumens per Lamp: N/A  
Luminaire Lumens: 6996.2 lumens  
Efficiency: N/A  
Efficacy: 123.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

Input Watts (W): 56.9  
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



TEST NUMBER: P331369  
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### Luminous Intensity Polar Plot





TEST NUMBER: P331369

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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	0	
RCR																						
0	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42	34				
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27				
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	30	29	27	22				
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	26	24	23	18				
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	23	21	19	15				
5	64	52	44	38	57	47	40	35	38	33	29	29	25	22	21	18	16	13				
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	19	16	14	11				
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10				
8	50	38	30	25	45	34	28	23	28	23	19	22	18	15	16	13	11	9				
9	47	35	27	22	42	31	25	20	25	20	17	20	16	13	15	12	10	8				
10	43	32	24	20	39	29	22	18	23	18	15	18	15	12	13	11	9	7				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11373	11373	11373
5°	11428	10947	10905
10°	11356	10624	10504
15°	11200	10282	10083
20°	11002	9915	9676
25°	10807	9560	9307
30°	10532	9197	8935
35°	10254	8846	8673
40°	9960	8547	8413
45°	9681	8279	8190
50°	9382	8037	7969
55°	9070	7777	7745
60°	8686	7508	7509
65°	8287	7191	7227
70°	7841	6852	6923
75°	7270	6518	6643
80°	6370	6177	6361
85°	5506	5882	6138



TEST NUMBER: P331369

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.7	1.0
10°-20°	191.4	2.7
20°-30°	290.0	4.1
30°-40°	353.3	5.0
40°-50°	380.0	5.4
50°-60°	369.1	5.3
60°-70°	322.3	4.6
70°-80°	248.1	3.5
80°-90°	170.1	2.4
90°-100°	163.7	2.3
100°-110°	263.5	3.8
110°-120°	535.7	7.7
120°-130°	823.9	11.8
130°-140°	856.3	12.2
140°-150°	786.1	11.2
150°-160°	630.2	9.0
160°-170°	406.1	5.8
170°-180°	139.8	2.0
0°-30°	548.2	7.8
0°-40°	901.4	12.9
0°-60°	1650.6	23.6
0°-90°	2391.0	34.2
90°-120°	962.9	13.8
90°-150°	3429.1	49.0
90°-180°	4605.0	65.8
0°-180°	6996.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	704	704	704	704	704	
5°	706	703	697	703	702	67
15°	674	676	676	684	684	190
25°	612	620	629	641	644	281
35°	528	545	564	586	594	330
45°	433	461	496	527	538	334
55°	332	369	422	457	472	297
65°	227	277	337	377	392	225
75°	126	183	248	290	305	133
85°	37	100	165	207	222	40
90°	11	82	156	200	216	10
95°	77	93	159	201	214	91
105°	328	373	153	198	216	351
115°	615	647	717	278	190	605
125°	866	882	933	967	980	772
135°	1070	1088	1107	1138	1145	827
145°	1241	1241	1258	1270	1271	776
155°	1366	1358	1369	1375	1367	629
165°	1439	1434	1436	1443	1436	406
175°	1472	1465	1467	1473	1464	140
180°	1469	1469	1469	1469	1469	



TEST NUMBER: P331369

CATALOG NUMBER: S122DIP-S675D1080U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4
2.5°	708.5	707.9	707.4	706.8	706.3	705.4	704.1	702.8	701.6	700.3	701.2
5°	706.4	705.7	705.1	704.4	703.7	702.7	701.3	700.0	698.6	697.2	698.6
7.5°	700.1	699.6	699.2	698.7	698.3	697.5	696.5	695.4	694.4	693.4	695.0
10°	695.2	694.7	694.3	693.8	693.4	692.8	692.1	691.5	690.8	690.1	691.9
12.5°	687.0	687.1	687.2	687.3	687.4	687.2	686.7	686.2	685.7	685.2	687.0
15°	673.8	674.2	674.7	675.1	675.6	675.8	675.8	675.8	675.8	675.8	677.8
17.5°	656.6	657.6	658.5	659.5	660.4	661.3	662.0	662.7	663.4	664.2	666.3
20°	645.2	646.3	647.4	648.6	649.7	650.7	651.6	652.6	653.5	654.4	656.9
22.5°	632.9	634.2	635.6	636.9	638.2	639.5	640.8	642.0	643.3	644.6	647.1
25°	612.5	614.1	615.7	617.3	618.9	620.7	622.7	624.8	626.8	628.8	631.6
27.5°	588.0	590.6	593.2	595.8	598.4	600.9	603.3	605.7	608.1	610.5	613.9
30°	571.7	574.6	577.6	580.5	583.5	586.4	589.4	592.3	595.3	598.2	601.8
32.5°	553.7	557.0	560.3	563.6	567.0	570.4	573.9	577.3	580.8	584.3	588.5
35°	527.8	531.6	535.5	539.3	543.2	547.3	551.6	555.9	560.2	564.5	569.5
37.5°	499.6	504.1	508.5	512.9	517.4	522.4	528.0	533.6	539.1	544.7	550.3
40°	480.8	485.8	490.8	495.8	500.8	506.3	512.5	518.6	524.7	530.8	536.7
42.5°	462.9	467.8	472.8	477.8	482.8	488.8	495.9	502.9	509.9	517.0	523.4
45°	432.8	439.0	445.1	451.2	457.3	464.4	472.3	480.3	488.2	496.1	503.2
47.5°	403.2	409.9	416.6	423.2	429.9	437.9	447.2	456.5	465.8	475.1	482.5
50°	382.8	389.9	396.9	403.9	410.9	419.6	429.8	440.0	450.2	460.4	468.1
52.5°	363.2	370.6	378.0	385.4	392.8	401.9	412.6	423.4	434.1	444.9	452.8
55°	331.8	339.9	348.1	356.3	364.4	374.4	386.2	398.0	409.8	421.6	429.8
57.5°	300.7	310.0	319.2	328.4	337.6	348.2	360.2	372.2	384.3	396.3	405.1
60°	278.7	288.4	298.2	308.0	317.7	329.1	342.0	354.9	367.8	380.8	389.4
62.5°	259.1	269.2	279.3	289.4	299.6	311.1	324.0	336.9	349.9	362.8	372.0
65°	226.6	237.7	248.9	260.0	271.1	283.3	296.7	310.1	323.5	336.9	346.2
67.5°	196.8	208.4	220.1	231.7	243.3	255.9	269.6	283.3	297.0	310.7	320.1
70°	175.6	187.4	199.2	211.0	222.8	235.7	249.8	263.8	277.9	292.0	301.7
72.5°	156.0	168.1	180.3	192.5	204.6	217.8	232.1	246.3	260.6	274.8	284.4
75°	125.6	138.3	151.0	163.7	176.4	190.0	204.5	219.0	233.5	248.1	257.8
77.5°	96.2	109.5	122.8	136.0	149.3	163.4	178.1	192.9	207.6	222.3	232.1
80°	76.6	90.4	104.2	118.1	131.9	146.2	161.0	175.7	190.4	205.2	214.7
82.5°	60.2	73.9	87.5	101.2	114.9	129.1	144.1	159.0	173.9	188.9	198.4
85°	36.8	50.8	64.9	78.9	93.0	107.3	121.8	136.3	150.9	165.4	174.9
87.5°	20.2	34.3	48.3	62.3	76.4	90.9	105.7	120.6	135.5	150.4	159.9
90°	11.3	27.0	42.8	58.5	74.3	90.4	106.8	123.2	139.6	156.0	166.3
92.5°	30.9	42.9	54.9	66.9	78.9	92.4	107.3	122.2	137.1	152.1	161.6
95°	77.3	80.1	83.0	85.9	88.7	97.8	113.1	128.3	143.6	158.9	168.7
97.5°	144.3	131.8	119.3	106.8	94.3	96.5	113.4	130.3	147.2	164.1	173.4
100°	195.3	171.3	147.4	123.4	99.4	95.8	112.5	129.2	146.0	162.7	173.0
102.5°	250.6	251.4	252.3	253.1	253.9	243.7	222.4	201.2	179.9	158.7	169.3
105°	328.3	341.9	355.6	369.3	382.9	363.4	310.7	258.0	205.3	152.6	163.2
107.5°	418.0	429.0	440.0	450.9	461.9	434.4	368.3	302.3	236.3	170.2	175.2
110°	475.0	484.5	494.0	503.5	513.0	489.2	432.0	374.9	317.7	260.6	244.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	529.4	537.6	545.8	554.1	562.3	563.2	556.9	550.6	544.3	538.0	459.1
115°	615.3	621.8	628.4	634.9	641.4	652.7	668.8	684.9	701.0	717.1	614.6
117.5°	691.1	697.2	703.3	709.4	715.6	725.4	738.9	752.4	765.9	779.4	759.6
120°	747.2	751.6	756.1	760.5	765.0	773.9	787.2	800.5	813.9	827.2	836.4
122.5°	794.8	798.9	803.0	807.1	811.2	819.8	833.0	846.1	859.3	872.5	880.3
125°	866.3	869.4	872.4	875.5	878.6	886.0	897.7	909.5	921.2	933.0	940.8
127.5°	932.0	935.2	938.3	941.5	944.7	950.9	960.1	969.3	978.5	987.7	995.7
130°	973.7	977.2	980.8	984.3	987.9	993.3	1000.7	1008.1	1015.4	1022.8	1030.8
132.5°	1016.2	1019.2	1022.2	1025.1	1028.1	1032.8	1039.0	1045.3	1051.6	1057.9	1065.3
135°	1070.4	1074.2	1078.0	1081.8	1085.6	1089.6	1094.0	1098.4	1102.8	1107.2	1114.4
137.5°	1126.4	1129.0	1131.6	1134.2	1136.8	1139.8	1143.2	1146.6	1150.0	1153.4	1159.9
140°	1162.9	1164.6	1166.3	1167.9	1169.6	1171.9	1175.0	1178.0	1181.1	1184.1	1189.9
142.5°	1193.5	1195.0	1196.5	1198.0	1199.4	1201.7	1204.8	1207.8	1210.9	1214.0	1218.8
145°	1240.6	1240.3	1240.1	1239.9	1239.6	1241.5	1245.5	1249.5	1253.6	1257.6	1260.6
147.5°	1282.5	1281.6	1280.7	1279.8	1278.9	1280.4	1284.4	1288.3	1292.3	1296.3	1297.7
150°	1309.7	1308.0	1306.4	1304.7	1303.1	1304.1	1307.9	1311.7	1315.5	1319.2	1320.7
152.5°	1332.6	1330.8	1328.9	1327.1	1325.3	1326.1	1329.7	1333.3	1336.9	1340.5	1341.9
155°	1366.0	1363.9	1361.8	1359.6	1357.5	1357.9	1360.7	1363.5	1366.4	1369.2	1370.6
157.5°	1392.2	1390.4	1388.6	1386.8	1385.0	1385.1	1387.1	1389.0	1391.0	1393.0	1394.6
160°	1407.5	1406.1	1404.6	1403.2	1401.8	1401.8	1403.2	1404.6	1406.1	1407.5	1408.9
162.5°	1421.1	1419.7	1418.2	1416.8	1415.4	1415.3	1416.5	1417.8	1419.0	1420.2	1421.8
165°	1439.4	1437.9	1436.5	1435.1	1433.7	1433.3	1434.0	1434.8	1435.5	1436.2	1437.8
167.5°	1453.0	1451.6	1450.1	1448.7	1447.3	1446.9	1447.6	1448.2	1448.9	1449.6	1451.2
170°	1460.6	1459.2	1457.8	1456.4	1455.0	1454.5	1455.0	1455.4	1455.9	1456.4	1458.0
172.5°	1465.7	1464.3	1462.9	1461.5	1460.1	1459.6	1460.1	1460.5	1461.0	1461.5	1463.1
175°	1472.3	1470.7	1469.0	1467.4	1465.7	1465.1	1465.6	1466.1	1466.5	1467.0	1468.7
177.5°	1473.4	1472.1	1470.7	1469.4	1468.1	1467.5	1467.7	1467.9	1468.1	1468.3	1469.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4
2.5°	702.1	703.0	703.9	704.2	703.8	703.5	703.1	702.8
5°	700.0	701.3	702.7	703.3	703.0	702.8	702.6	702.3
7.5°	696.6	698.3	699.9	700.6	700.4	700.1	699.9	699.7
10°	693.7	695.5	697.4	698.1	697.9	697.7	697.5	697.2
12.5°	688.8	690.6	692.5	693.2	693.0	692.8	692.6	692.3
15°	679.9	681.9	684.0	684.9	684.7	684.4	684.2	684.0
17.5°	668.4	670.6	672.7	673.8	673.8	673.8	673.8	673.8
20°	659.4	661.9	664.3	665.6	665.6	665.6	665.6	665.6
22.5°	649.6	652.1	654.5	656.0	656.3	656.7	657.1	657.4
25°	634.3	637.0	639.7	641.4	642.1	642.8	643.5	644.2
27.5°	617.4	620.8	624.3	626.2	626.7	627.2	627.7	628.2
30°	605.5	609.1	612.7	614.9	615.6	616.3	616.9	617.6
32.5°	592.7	596.9	601.0	603.7	605.0	606.2	607.4	608.6
35°	574.5	579.5	584.5	587.8	589.4	591.0	592.5	594.1
37.5°	555.8	561.3	566.9	570.5	572.2	573.8	575.5	577.2
40°	542.6	548.5	554.4	558.4	560.4	562.5	564.5	566.6
42.5°	529.8	536.3	542.7	547.0	549.0	551.1	553.1	555.1
45°	510.2	517.2	524.3	528.9	531.2	533.5	535.7	538.0
47.5°	489.8	497.2	504.5	509.4	511.9	514.4	516.9	519.4
50°	475.8	483.5	491.3	496.4	498.9	501.4	503.8	506.3
52.5°	460.7	468.6	476.5	481.8	484.4	487.1	489.8	492.5
55°	437.9	446.1	454.3	459.8	462.8	465.7	468.7	471.6
57.5°	413.9	422.7	431.5	437.4	440.4	443.4	446.4	449.4
60°	398.0	406.6	415.3	421.2	424.3	427.5	430.7	433.9
62.5°	381.1	390.3	399.5	405.6	408.5	411.5	414.5	417.5
65°	355.5	364.8	374.1	380.2	383.2	386.1	389.1	392.0
67.5°	329.5	338.9	348.3	354.6	357.6	360.7	363.8	366.9
70°	311.5	321.2	331.0	337.2	339.9	342.7	345.4	348.1
72.5°	294.0	303.5	313.1	319.5	322.8	326.1	329.3	332.6
75°	267.6	277.3	287.1	293.4	296.4	299.3	302.3	305.2
77.5°	241.8	251.5	261.2	267.6	270.8	274.0	277.1	280.3
80°	224.2	233.8	243.3	249.7	252.8	256.0	259.2	262.4
82.5°	207.9	217.4	227.0	233.2	236.2	239.2	242.2	245.2
85°	184.4	194.0	203.5	209.8	213.0	216.2	219.4	222.5
87.5°	169.4	178.9	188.4	194.7	197.6	200.6	203.6	206.6
90°	176.5	186.8	197.0	203.8	207.0	210.1	213.3	216.5
92.5°	171.1	180.6	190.1	196.3	199.4	202.4	205.4	208.4
95°	178.5	188.3	198.1	204.2	206.7	209.2	211.7	214.2
97.5°	182.8	192.1	201.5	207.6	210.6	213.5	216.5	219.5
100°	183.2	193.5	203.8	210.4	213.4	216.4	219.3	222.3
102.5°	180.0	190.7	201.3	208.3	211.4	214.6	217.7	220.9
105°	173.7	184.3	194.8	201.8	205.2	208.7	212.1	215.5
107.5°	180.2	185.1	190.1	194.3	197.8	201.2	204.6	208.1
110°	227.8	211.5	195.1	188.6	192.1	195.5	199.0	202.4





TEST NUMBER: P331369

CATALOG NUMBER: S122DIP-S675D1080U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	380.2	301.3	222.4	184.5	187.8	191.0	194.3	197.5
115°	512.0	409.4	306.9	248.3	233.8	219.3	204.8	190.3
117.5°	739.9	720.1	700.4	663.7	610.2	556.6	503.0	449.4
120°	845.6	854.8	863.9	853.8	824.4	795.0	765.6	736.3
122.5°	888.2	896.1	904.0	905.9	901.8	897.7	893.7	889.6
125°	948.5	956.3	964.1	969.4	972.1	974.9	977.6	980.4
127.5°	1003.8	1011.8	1019.9	1024.9	1027.1	1029.2	1031.4	1033.5
130°	1038.9	1046.9	1055.0	1059.8	1061.3	1062.9	1064.5	1066.1
132.5°	1072.8	1080.3	1087.8	1092.3	1093.9	1095.5	1097.1	1098.6
135°	1121.5	1128.6	1135.7	1140.0	1141.3	1142.7	1144.0	1145.3
137.5°	1166.4	1172.9	1179.4	1183.0	1183.7	1184.4	1185.2	1185.9
140°	1195.7	1201.4	1207.2	1210.1	1210.3	1210.5	1210.7	1210.9
142.5°	1223.7	1228.5	1233.3	1235.8	1235.8	1235.8	1235.8	1235.8
145°	1263.6	1266.6	1269.6	1271.1	1271.1	1271.0	1271.0	1270.9
147.5°	1299.1	1300.5	1301.9	1302.4	1301.9	1301.5	1301.1	1300.6
150°	1322.1	1323.5	1324.9	1325.0	1323.8	1322.7	1321.5	1320.3
152.5°	1343.3	1344.8	1346.2	1346.1	1344.5	1343.0	1341.4	1339.9
155°	1372.0	1373.5	1374.9	1374.6	1372.7	1370.9	1369.0	1367.1
157.5°	1396.2	1397.8	1399.4	1399.3	1397.5	1395.6	1393.8	1391.9
160°	1410.3	1411.7	1413.1	1413.0	1411.4	1409.7	1408.1	1406.4
162.5°	1423.4	1425.0	1426.7	1426.4	1424.4	1422.4	1420.3	1418.3
165°	1439.5	1441.1	1442.8	1442.8	1441.1	1439.5	1437.8	1436.2
167.5°	1452.9	1454.5	1456.2	1455.9	1453.8	1451.7	1449.6	1447.4
170°	1459.7	1461.3	1463.0	1462.7	1460.6	1458.5	1456.4	1454.2
172.5°	1464.8	1466.4	1468.1	1467.9	1465.7	1463.6	1461.5	1459.3
175°	1470.3	1472.0	1473.6	1473.3	1470.9	1468.5	1466.2	1463.8
177.5°	1470.9	1472.2	1473.6	1473.4	1471.7	1470.0	1468.3	1466.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1

(END OF REPORT)