

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: P331999-840

Luminaire Tested: **S123DIP-S775D1195U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331999-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S775D1195U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7565.2 lumens
Efficiency: N/A
Efficacy: 133.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

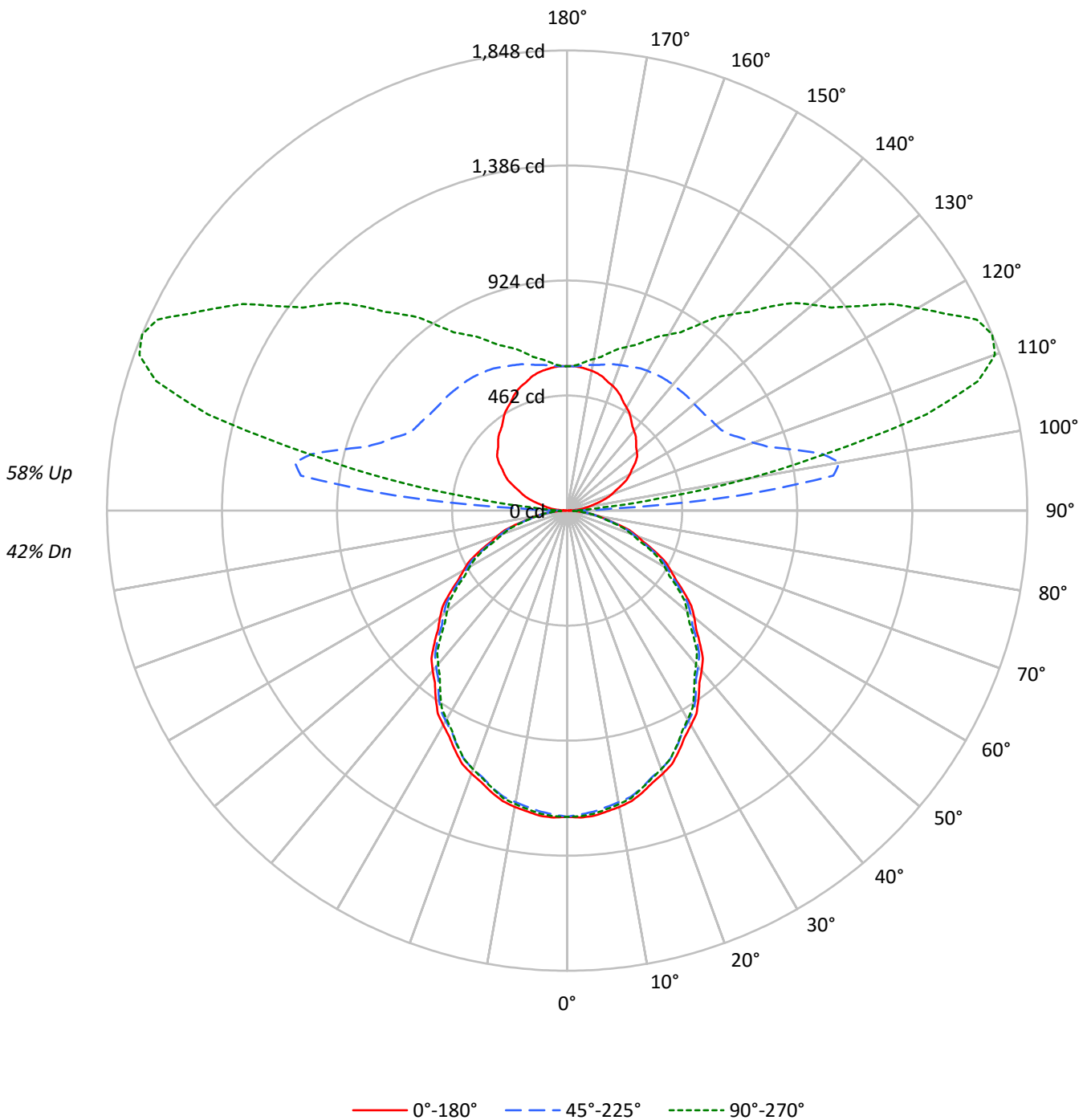
Input Watts (W): 56.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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									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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42																				
1	96	92	88	84	88	84	81	78	69	67	65	56	54	53	43	42	41	36																				
2	87	80	74	69	80	73	68	64	61	57	54	49	46	44	38	36	35	30																				
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	34	31	30	25																				
4	73	62	54	48	66	57	50	45	47	42	38	38	35	32	30	28	25	22																				
5	67	55	47	41	61	51	44	38	42	37	33	34	31	27	27	24	22	19																				
6	62	50	42	36	56	46	39	33	38	33	29	31	27	24	25	22	19	16																				
7	57	45	37	31	52	41	34	29	35	29	25	28	24	21	22	19	17	15																				
8	53	41	33	28	48	37	31	26	31	26	22	26	22	19	21	18	15	13																				
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12																				
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	18	15	13	11																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13237	13237	13237
5°	13299	13116	13207
10°	13210	13002	13083
15°	13056	12856	12880
20°	12875	12645	12657
25°	12634	12396	12371
30°	12367	12117	12026
35°	12089	11825	11671
40°	11797	11500	11323
45°	11478	11204	10930
50°	11156	10836	10535
55°	10736	10457	10141
60°	10312	10015	9698
65°	9938	9536	9235
70°	9385	8985	8585
75°	8576	8268	7918
80°	7736	7407	7345
85°	6780	6533	6274



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.8	1.5
10°-20°	327.1	4.3
20°-30°	483.2	6.4
30°-40°	564.4	7.5
40°-50°	567.4	7.5
50°-60°	498.4	6.6
60°-70°	371.3	4.9
70°-80°	211.6	2.8
80°-90°	65.2	0.9
90°-100°	322.6	4.3
100°-110°	913.4	12.1
110°-120°	898.5	11.9
120°-130°	716.7	9.5
130°-140°	565.1	7.5
140°-150°	421.7	5.6
150°-160°	294.0	3.9
160°-170°	172.7	2.3
170°-180°	56.2	0.7
0°-30°	926.1	12.2
0°-40°	1490.5	19.7
0°-60°	2556.3	33.8
0°-90°	3204.5	42.4
90°-120°	2134.4	28.2
90°-150°	3837.9	50.7
90°-180°	4361.0	57.6
0°-180°	7565.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1230	1230	1230	1230	1230	
5°	1231	1225	1214	1224	1222	117
15°	1172	1167	1154	1161	1156	330
25°	1064	1057	1044	1044	1042	490
35°	920	913	900	894	888	575
45°	754	749	736	724	718	582
55°	572	570	557	546	540	512
65°	390	385	374	366	363	385
75°	206	202	199	194	190	221
85°	55	53	53	51	51	60
90°	2	14	29	33	34	6
95°	40	130	696	203	136	43
105°	136	201	943	1650	1492	145
115°	240	300	722	1582	1815	238
125°	334	395	674	1220	1432	297
135°	392	468	664	1005	1160	303
145°	447	512	656	824	907	280
155°	508	548	635	722	752	234
165°	555	571	608	645	656	156
175°	578	579	583	591	590	55
180°	580	580	580	580	580	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8
2.5°	1234.0	1233.2	1232.5	1231.7	1231.0	1229.6	1227.5	1225.5	1223.4	1221.3	1223.1
5°	1230.8	1229.6	1228.5	1227.3	1226.1	1224.3	1221.6	1219.1	1216.5	1213.9	1216.3
7.5°	1218.8	1217.6	1216.4	1215.3	1214.1	1212.1	1209.4	1206.8	1204.1	1201.4	1203.6
10°	1208.6	1207.4	1206.3	1205.1	1204.0	1201.8	1198.7	1195.7	1192.7	1189.6	1191.7
12.5°	1195.1	1194.1	1193.2	1192.1	1191.1	1189.2	1186.4	1183.5	1180.6	1177.7	1179.3
15°	1171.6	1170.6	1169.7	1168.8	1167.8	1165.9	1162.8	1159.7	1156.7	1153.7	1155.5
17.5°	1144.3	1143.1	1141.9	1140.6	1139.4	1137.3	1134.3	1131.1	1128.1	1125.1	1126.4
20°	1124.0	1122.6	1121.3	1119.8	1118.4	1116.1	1113.1	1110.0	1107.0	1103.9	1104.9
22.5°	1101.2	1099.7	1098.3	1096.9	1095.5	1093.3	1090.3	1087.2	1084.2	1081.1	1081.9
25°	1063.8	1062.4	1061.0	1059.6	1058.1	1055.9	1052.8	1049.8	1046.7	1043.7	1043.9
27.5°	1023.8	1022.4	1021.1	1019.7	1018.3	1016.0	1012.7	1009.5	1006.1	1002.8	1003.0
30°	995.0	993.8	992.7	991.5	990.3	988.1	984.8	981.5	978.3	974.9	974.9
32.5°	966.2	964.7	963.1	961.6	960.1	958.1	955.4	952.9	950.4	947.9	946.5
35°	920.0	918.6	917.2	915.7	914.3	912.1	909.0	905.9	902.9	899.9	898.5
37.5°	872.5	870.8	869.0	867.2	865.5	863.0	859.9	856.8	853.6	850.6	848.9
40°	839.6	838.2	836.8	835.4	833.9	831.6	828.3	825.1	821.7	818.4	816.6
42.5°	806.6	805.0	803.3	801.8	800.2	797.8	794.5	791.1	787.9	784.6	782.7
45°	754.0	753.0	752.0	751.1	750.1	748.2	745.1	742.0	739.0	736.0	733.2
47.5°	701.7	700.3	698.9	697.6	696.2	694.1	691.3	688.4	685.5	682.7	679.8
50°	666.2	665.0	663.8	662.7	661.5	659.3	656.3	653.3	650.2	647.1	644.6
52.5°	628.9	628.1	627.3	626.5	625.7	623.7	620.5	617.2	614.0	610.8	608.5
55°	572.1	571.8	571.6	571.4	571.1	569.5	566.4	563.4	560.3	557.2	554.7
57.5°	518.0	517.2	516.3	515.5	514.7	513.1	510.7	508.2	505.7	503.3	501.0
60°	479.0	478.8	478.6	478.3	478.1	476.6	473.7	470.9	468.1	465.2	463.1
62.5°	444.3	443.7	443.1	442.5	441.9	440.2	437.4	434.5	431.7	428.9	426.8
65°	390.2	389.0	387.8	386.7	385.5	383.7	381.3	379.0	376.7	374.4	372.4
67.5°	332.9	331.8	330.8	329.7	328.7	327.3	325.6	323.8	321.9	320.2	318.5
70°	298.2	296.8	295.4	294.0	292.6	291.1	289.7	288.3	286.9	285.5	283.9
72.5°	261.9	260.7	259.7	258.7	257.7	256.4	254.8	253.2	251.6	249.9	248.5
75°	206.2	205.2	204.3	203.4	202.5	201.6	200.9	200.2	199.4	198.8	197.6
77.5°	156.9	156.4	155.9	155.4	154.8	154.2	153.3	152.5	151.7	150.8	150.0
80°	124.8	124.1	123.4	122.7	122.0	121.4	120.9	120.5	120.0	119.5	119.3
82.5°	93.5	93.3	93.2	93.0	92.9	92.8	92.7	92.6	92.5	92.4	92.0
85°	54.9	54.5	54.0	53.6	53.1	52.9	52.9	52.9	52.9	52.9	52.4
87.5°	22.4	22.4	22.3	22.4	22.3	22.4	22.9	23.4	23.9	24.4	24.0
90°	2.3	4.6	7.1	10.6	12.9	15.2	18.8	22.3	25.9	29.3	28.2
92.5°	14.5	21.6	31.4	40.6	50.5	67.9	98.6	149.1	198.5	180.5	136.1
95°	39.9	43.4	56.4	76.2	106.7	152.5	252.3	427.1	619.6	695.8	564.3
97.5°	68.1	69.2	79.3	96.6	126.7	176.2	271.6	468.6	789.4	1078.2	1153.6
100°	86.8	88.0	96.2	112.6	140.8	186.5	268.7	442.3	750.9	1111.2	1342.3
102.5°	106.5	108.7	115.9	131.4	156.7	198.7	272.5	419.8	694.6	1050.2	1351.6
105°	136.1	139.7	146.6	160.8	183.0	219.4	282.8	403.6	625.4	943.3	1280.1
107.5°	167.5	171.1	177.8	191.7	212.6	246.4	302.1	402.4	581.3	849.0	1154.8
110°	190.1	193.6	199.4	212.4	232.3	265.2	318.0	407.2	564.3	795.5	1075.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.8	214.3	220.2	233.0	253.0	284.9	334.0	416.6	555.0	759.8	1007.4
115°	240.5	245.2	252.3	264.0	284.0	315.6	360.2	431.8	551.5	721.5	924.5
117.5°	270.3	275.7	281.6	292.4	314.7	344.1	388.1	451.9	553.6	699.0	874.5
120°	290.9	294.5	300.3	312.1	334.4	363.8	406.0	467.0	557.3	688.7	848.3
122.5°	308.8	312.4	318.2	330.8	352.2	383.4	424.7	481.1	563.9	682.2	826.7
125°	334.4	336.8	343.8	356.7	379.0	410.6	451.7	503.3	573.7	673.5	799.0
127.5°	353.9	357.4	366.1	379.2	403.8	435.6	475.1	521.7	585.0	669.2	774.7
130°	366.1	369.6	380.1	394.3	418.9	450.5	489.3	533.8	592.5	666.4	761.4
132.5°	375.5	379.9	391.4	408.3	432.9	463.7	501.5	545.1	598.1	665.5	749.3
135°	391.9	396.6	409.5	427.1	451.7	483.4	519.8	559.7	606.6	664.1	733.4
137.5°	407.4	412.3	425.0	443.7	468.2	497.5	532.4	570.5	612.3	661.5	719.4
140°	417.7	423.5	435.3	454.0	477.6	506.9	540.9	576.1	616.0	660.6	711.0
142.5°	429.0	433.9	446.6	463.4	487.0	514.4	547.4	581.7	618.8	658.7	703.5
145°	447.1	450.5	461.1	478.7	498.7	525.6	556.1	587.8	620.7	655.9	693.5
147.5°	465.3	467.5	477.8	493.0	512.3	535.2	563.2	591.6	620.7	651.5	683.6
150°	477.6	478.7	488.1	503.3	519.8	540.9	567.8	592.5	620.7	647.6	677.0
152.5°	489.8	490.0	499.4	512.7	527.3	547.4	570.7	594.4	617.8	643.0	669.5
155°	508.1	508.1	515.1	526.8	539.7	556.1	576.1	594.9	614.8	634.8	658.2
157.5°	522.6	523.5	529.2	539.5	550.5	563.2	579.2	596.0	610.9	627.5	645.5
160°	533.8	533.8	538.6	548.0	556.1	567.8	582.0	596.0	608.9	621.9	637.1
162.5°	542.3	542.3	546.0	553.6	560.9	570.7	582.9	595.1	605.2	616.2	628.6
165°	555.0	553.8	556.1	562.0	566.7	574.9	584.3	592.5	599.6	607.7	617.1
167.5°	564.6	563.2	564.3	568.9	572.1	577.2	584.1	590.7	593.9	599.4	606.1
170°	570.3	567.8	569.1	572.6	574.9	577.2	583.1	587.8	590.2	593.7	599.6
172.5°	574.0	572.6	572.8	575.4	576.8	578.2	583.1	586.9	587.3	589.0	593.0
175°	578.5	577.2	576.1	578.5	578.5	579.7	582.0	584.3	583.1	583.1	585.5
177.5°	580.6	579.7	578.7	579.7	579.7	579.7	580.6	582.4	580.6	579.7	580.6
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8
2.5°	1225.1	1227.0	1228.8	1229.7	1229.5	1229.3	1229.1	1228.9
5°	1218.6	1220.9	1223.4	1224.3	1223.8	1223.4	1222.8	1222.3
7.5°	1205.7	1207.8	1209.9	1210.8	1210.5	1210.2	1209.9	1209.7
10°	1193.9	1195.9	1198.0	1198.9	1198.4	1197.9	1197.5	1197.0
12.5°	1180.8	1182.3	1184.0	1184.6	1184.3	1184.0	1183.8	1183.5
15°	1157.4	1159.2	1161.1	1161.3	1159.9	1158.5	1157.2	1155.8
17.5°	1127.7	1129.0	1130.3	1130.7	1130.2	1129.7	1129.2	1128.7
20°	1105.8	1106.7	1107.7	1107.8	1107.1	1106.4	1105.7	1105.0
22.5°	1082.6	1083.4	1084.1	1084.0	1083.2	1082.3	1081.4	1080.5
25°	1044.1	1044.4	1044.6	1044.4	1043.7	1043.0	1042.3	1041.6
27.5°	1003.2	1003.4	1003.6	1003.2	1002.4	1001.5	1000.6	999.7
30°	974.9	974.9	974.9	974.1	972.5	970.8	969.2	967.6
32.5°	945.2	943.9	942.6	941.5	940.6	939.7	938.8	938.0
35°	897.1	895.6	894.2	892.9	891.7	890.6	889.4	888.2
37.5°	847.2	845.5	843.8	842.6	841.8	841.1	840.3	839.6
40°	814.7	812.8	810.9	809.5	808.6	807.6	806.7	805.8
42.5°	780.8	778.9	777.1	775.7	774.8	773.8	772.8	771.9
45°	730.3	727.5	724.7	722.7	721.5	720.3	719.1	718.0
47.5°	677.1	674.4	671.6	669.6	668.6	667.6	666.6	665.5
50°	642.0	639.3	636.8	634.8	633.4	632.0	630.6	629.1
52.5°	606.3	604.1	601.9	600.2	598.7	597.3	595.9	594.5
55°	552.1	549.5	546.9	545.0	543.8	542.7	541.5	540.4
57.5°	498.7	496.4	494.1	492.3	490.9	489.6	488.2	486.9
60°	461.0	458.9	456.8	455.1	453.9	452.8	451.6	450.5
62.5°	424.6	422.5	420.4	419.0	418.2	417.4	416.6	415.8
65°	370.5	368.7	366.8	365.5	364.8	364.1	363.3	362.6
67.5°	316.9	315.3	313.6	312.3	311.3	310.3	309.3	308.3
70°	282.3	280.5	278.9	277.5	276.3	275.2	274.0	272.8
72.5°	247.0	245.6	244.2	243.1	242.5	241.9	241.3	240.7
75°	196.4	195.3	194.1	193.2	192.5	191.8	191.1	190.4
77.5°	149.2	148.3	147.5	147.2	147.2	147.2	147.2	147.2
80°	119.1	118.8	118.6	118.5	118.5	118.5	118.5	118.5
82.5°	91.6	91.2	90.7	90.4	90.3	90.1	89.9	89.7
85°	51.9	51.5	51.0	50.8	50.8	50.8	50.8	50.8
87.5°	24.1	24.1	24.2	24.5	24.3	24.5	24.8	24.5
90°	29.3	30.5	31.7	34.0	32.8	34.0	35.2	34.0
92.5°	98.8	78.4	69.2	63.1	61.0	57.5	58.7	56.6
95°	422.4	286.3	224.1	181.9	159.6	149.1	140.8	136.1
97.5°	1052.9	843.3	692.1	551.7	465.1	412.3	380.6	370.5
100°	1383.3	1288.3	1151.0	984.4	865.9	780.2	734.5	735.7
102.5°	1493.2	1490.1	1410.1	1304.4	1212.2	1144.5	1106.2	1079.2
105°	1525.3	1642.6	1665.0	1634.5	1580.4	1535.9	1498.3	1492.5
107.5°	1432.8	1623.4	1726.2	1768.0	1768.9	1753.8	1741.2	1730.4
110°	1344.6	1560.5	1708.4	1790.5	1823.3	1832.7	1830.4	1828.1



TEST NUMBER: P331999-840

CATALOG NUMBER: S123DIP-S775D1195U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1257.3	1477.9	1643.6	1749.2	1809.3	1838.4	1847.2	1847.8
115°	1141.7	1345.7	1518.2	1646.2	1734.1	1785.7	1809.3	1815.1
117.5°	1057.8	1234.1	1389.0	1518.7	1610.5	1669.6	1703.4	1711.4
120°	1013.7	1172.2	1312.9	1431.5	1524.1	1589.8	1618.0	1625.1
122.5°	979.0	1122.4	1252.8	1362.9	1445.3	1504.4	1535.4	1544.3
125°	932.8	1060.7	1173.3	1267.2	1342.3	1393.9	1423.2	1431.5
127.5°	892.4	1006.4	1108.0	1193.5	1260.4	1304.4	1331.0	1338.5
130°	867.1	972.7	1067.7	1147.5	1209.7	1251.9	1276.6	1286.0
132.5°	843.6	940.8	1029.3	1105.3	1163.7	1205.9	1227.8	1234.4
135°	811.9	895.2	971.5	1038.3	1095.9	1131.0	1152.2	1160.4
137.5°	783.0	851.3	917.1	975.0	1023.4	1059.0	1076.8	1082.3
140°	766.2	826.0	882.3	932.8	977.3	1010.3	1029.0	1027.8
142.5°	750.2	801.6	850.4	894.3	932.3	961.4	978.3	977.1
145°	730.9	769.7	807.3	841.2	870.6	895.2	904.6	907.0
147.5°	715.3	746.0	776.3	800.4	822.7	839.4	848.3	849.2
150°	704.0	730.9	755.6	777.9	795.5	808.4	815.5	815.5
152.5°	693.7	716.9	738.7	757.3	771.1	783.0	787.3	787.3
155°	678.1	696.9	714.6	728.6	739.2	748.6	750.9	752.0
157.5°	661.8	677.5	691.1	702.1	711.2	718.3	720.1	719.9
160°	652.4	665.3	677.0	685.2	693.5	700.4	700.4	699.3
162.5°	641.1	652.2	662.9	670.1	675.6	681.7	681.7	680.5
165°	626.5	633.6	641.8	647.6	652.4	657.0	655.9	655.9
167.5°	613.9	619.2	624.0	628.2	630.3	633.6	632.4	632.4
170°	605.4	608.9	613.6	616.0	617.1	619.6	618.3	618.3
172.5°	597.9	600.5	604.3	605.6	605.9	608.2	606.1	605.2
175°	587.8	589.0	591.4	591.4	591.4	592.5	591.4	590.2
177.5°	581.5	582.4	583.4	583.4	582.4	583.4	581.5	581.5
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7

(END OF REPORT)