

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: P331981-840

Luminaire Tested: **S123DIP-S775D805U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331981-840
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-S775D805U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6137.4 lumens
Efficiency: N/A
Efficacy: 133.7 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

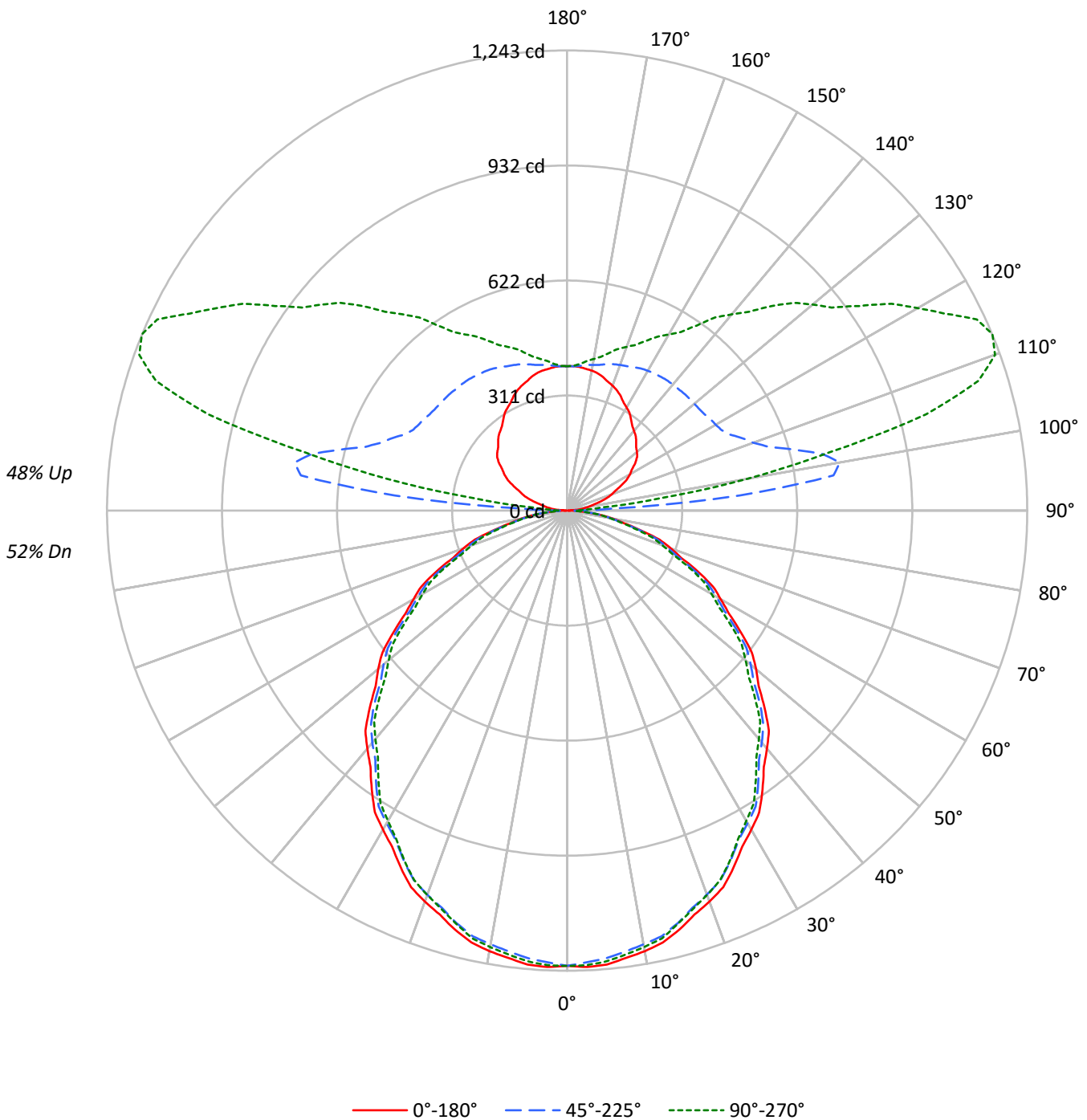
Input Watts (W): 45.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0	
RCR																						
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52				
1	98	94	90	86	91	87	84	80	74	72	69	62	60	59	51	50	49	44				
2	89	82	76	70	82	76	71	66	65	61	57	55	52	49	45	43	41	37				
3	82	72	65	59	75	67	60	55	57	52	48	48	45	41	40	37	35	31				
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27				
5	68	57	49	43	63	53	46	40	45	40	35	39	34	31	32	29	26	23				
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20				
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	27	23	21	18				
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	24	21	18	16				
9	50	38	31	25	47	36	29	24	31	26	22	27	22	19	23	19	17	14				
10	47	35	28	23	44	33	26	22	29	23	19	25	20	17	21	18	15	13				

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	1.9
10°-20°	327.1	5.3
20°-30°	483.2	7.9
30°-40°	564.4	9.2
40°-50°	567.4	9.2
50°-60°	498.4	8.1
60°-70°	371.3	6.1
70°-80°	211.6	3.4
80°-90°	63.7	1.0
90°-100°	217.1	3.5
100°-110°	614.6	10.0
110°-120°	604.6	9.9
120°-130°	482.3	7.9
130°-140°	380.2	6.2
140°-150°	283.8	4.6
150°-160°	197.8	3.2
160°-170°	116.2	1.9
170°-180°	37.8	0.6
0°-30°	926.1	15.1
0°-40°	1490.5	24.3
0°-60°	2556.3	41.7
0°-90°	3203.0	52.2
90°-120°	1436.3	23.4
90°-150°	2582.6	42.1
90°-180°	2934.0	47.8
0°-180°	6137.4	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	10	20	22	23	5
95°	27	87	468	137	92	29
105°	92	135	635	1110	1004	97
115°	162	202	486	1065	1221	160
125°	225	266	453	821	963	200
135°	264	315	447	676	781	204
145°	301	345	441	555	610	189
155°	342	369	427	486	506	157
165°	373	384	409	434	441	105
175°	389	390	392	398	397	37
180°	390	390	390	390	390	



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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°	22.3	22.0	21.8	21.7	21.5	21.4	21.7	22.0	22.3	22.5	22.2
90°	1.6	3.1	4.7	7.1	8.7	10.3	12.6	15.0	17.4	19.7	19.0
92.5°	9.8	14.5	21.2	27.4	33.9	45.6	66.3	100.3	133.6	121.4	91.6
95°	26.9	29.2	37.9	51.3	71.8	102.6	169.8	287.4	416.9	468.2	379.8
97.5°	45.7	46.6	53.4	65.0	85.2	118.6	182.7	315.4	531.2	725.6	776.3
100°	58.5	59.2	64.7	75.8	94.7	125.5	180.8	297.6	505.3	747.7	903.2
102.5°	71.7	73.1	78.0	88.5	105.5	133.7	183.3	282.5	467.4	706.6	909.6
105°	91.6	93.9	98.7	108.2	123.2	147.6	190.3	271.6	420.8	634.8	861.4
107.5°	112.7	115.1	119.7	129.0	143.1	165.8	203.2	270.8	391.1	571.3	777.1
110°	127.9	130.3	134.2	142.9	156.3	178.4	214.0	274.0	379.8	535.3	724.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	141.8	144.2	148.1	156.8	170.3	191.7	224.7	280.2	373.4	511.3	677.9
115°	161.9	165.0	169.8	177.6	191.1	212.4	242.4	290.5	371.1	485.5	622.2
117.5°	181.9	185.5	189.5	196.7	211.8	231.5	261.2	304.2	372.5	470.4	588.5
120°	195.8	198.1	202.1	210.1	225.0	244.8	273.2	314.3	375.1	463.4	570.9
122.5°	207.8	210.2	214.1	222.7	237.0	258.0	285.8	323.7	379.4	459.1	556.3
125°	225.0	226.6	231.4	240.0	255.0	276.3	304.0	338.7	386.1	453.2	537.7
127.5°	238.1	240.4	246.3	255.2	271.8	293.1	319.7	351.0	393.6	450.4	521.3
130°	246.3	248.7	255.8	265.3	281.9	303.2	329.2	359.2	398.7	448.5	512.4
132.5°	252.7	255.7	263.4	274.8	291.3	312.0	337.4	366.8	402.5	447.8	504.2
135°	263.7	266.9	275.6	287.4	304.0	325.3	349.7	376.6	408.2	446.9	493.4
137.5°	274.1	277.4	286.0	298.6	315.0	334.8	358.3	383.8	412.0	445.1	484.1
140°	281.0	285.0	293.0	305.6	321.3	341.0	364.0	387.7	414.5	444.5	478.5
142.5°	288.6	292.0	300.5	311.8	327.7	346.1	368.4	391.4	416.4	443.2	473.4
145°	300.8	303.2	310.3	322.1	335.6	353.8	374.3	395.6	417.7	441.3	466.7
147.5°	313.2	314.6	321.5	331.7	344.7	360.2	379.0	398.1	417.7	438.4	460.0
150°	321.3	322.1	328.4	338.7	349.7	364.0	382.1	398.7	417.7	435.9	455.6
152.5°	329.5	329.7	336.0	345.1	354.8	368.4	384.1	400.0	415.8	432.6	450.5
155°	341.8	341.8	346.6	354.5	363.1	374.3	387.7	400.3	413.7	427.2	442.9
157.5°	351.6	352.2	356.1	363.0	370.4	379.0	389.7	401.1	411.0	422.2	434.4
160°	359.2	359.2	362.4	368.7	374.3	382.1	391.6	401.1	409.8	418.5	428.7
162.5°	365.0	365.0	367.5	372.5	377.4	384.1	392.2	400.4	407.3	414.7	423.0
165°	373.4	372.6	374.3	378.2	381.3	386.9	393.1	398.7	403.4	409.0	415.3
167.5°	379.9	379.0	379.8	382.7	385.0	388.5	393.0	397.5	399.7	403.3	407.9
170°	383.7	382.1	382.9	385.3	386.9	388.5	392.4	395.6	397.2	399.5	403.4
172.5°	386.3	385.3	385.5	387.2	388.1	389.1	392.4	395.0	395.3	396.4	399.0
175°	389.2	388.5	387.7	389.2	389.2	390.0	391.6	393.1	392.4	392.4	393.9
177.5°	390.6	390.0	389.4	390.0	390.0	390.0	390.6	391.9	390.6	390.0	390.6
180°	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0



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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°	22.2	22.1	22.1	22.3	22.2	22.3	22.5	22.3
90°	19.7	20.5	21.3	22.9	22.1	22.9	23.7	22.9
92.5°	66.4	52.7	46.6	42.5	41.1	38.7	39.5	38.1
95°	284.3	192.7	150.8	122.4	107.3	100.3	94.7	91.6
97.5°	708.5	567.5	465.6	371.2	313.0	277.4	256.1	249.3
100°	930.9	866.9	774.6	662.4	582.7	525.0	494.2	495.0
102.5°	1004.7	1002.7	948.9	877.8	815.8	770.1	744.4	726.2
105°	1026.4	1105.3	1120.3	1099.8	1063.5	1033.5	1008.2	1004.3
107.5°	964.2	1092.4	1161.5	1189.6	1190.3	1180.2	1171.6	1164.4
110°	904.8	1050.1	1149.5	1204.9	1226.9	1233.2	1231.6	1230.1



TEST NUMBER: P331981-840

CATALOG NUMBER: S123DIP-S775D805U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	846.1	994.5	1106.0	1177.0	1217.5	1237.1	1243.0	1243.3
115°	768.2	905.5	1021.7	1107.7	1166.9	1201.6	1217.5	1221.4
117.5°	711.9	830.4	934.6	1022.0	1083.7	1123.5	1146.2	1151.7
120°	682.2	788.7	883.5	963.2	1025.6	1069.9	1088.7	1093.5
122.5°	658.8	755.3	843.0	917.2	972.5	1012.3	1033.2	1039.2
125°	627.6	713.8	789.5	852.7	903.2	938.0	957.7	963.2
127.5°	600.6	677.2	745.7	803.1	848.1	877.8	895.6	900.7
130°	583.5	654.5	718.5	772.1	814.1	842.4	859.0	865.4
132.5°	567.6	633.1	692.6	743.8	783.0	811.5	826.2	830.6
135°	546.3	602.4	653.7	698.7	737.4	761.1	775.3	780.8
137.5°	526.9	572.9	617.1	656.1	688.6	712.7	724.7	728.3
140°	515.5	555.8	593.7	627.6	657.7	679.7	692.5	691.7
142.5°	504.8	539.4	572.3	601.8	627.3	646.9	658.3	657.5
145°	491.9	518.0	543.2	566.1	585.8	602.4	608.7	610.3
147.5°	481.3	502.0	522.4	538.7	553.6	564.8	570.9	571.5
150°	473.7	491.9	508.5	523.4	535.3	544.0	548.8	548.8
152.5°	466.8	482.4	497.1	509.6	518.9	526.9	529.8	529.8
155°	456.4	469.0	480.8	490.3	497.4	503.7	505.3	506.0
157.5°	445.2	455.9	465.0	472.4	478.6	483.3	484.6	484.4
160°	439.0	447.7	455.6	461.1	466.7	471.3	471.3	470.6
162.5°	431.4	438.8	446.1	451.0	454.6	458.7	458.7	458.0
165°	421.6	426.4	431.9	435.9	439.0	442.1	441.3	441.3
167.5°	413.0	416.7	419.9	422.7	424.1	426.4	425.6	425.6
170°	407.4	409.8	412.9	414.5	415.3	416.9	416.1	416.1
172.5°	402.3	404.0	406.6	407.6	407.7	409.3	407.9	407.3
175°	395.6	396.4	397.9	397.9	397.9	398.7	397.9	397.2
177.5°	391.3	391.9	392.5	392.5	391.9	392.5	391.3	391.3
180°	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0

(END OF REPORT)