

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: P331995-840

Luminaire Tested: **S123DIP-S775D1195U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331995-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
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-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7404.8 lumens  
Efficiency: N/A  
Efficacy: 130.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

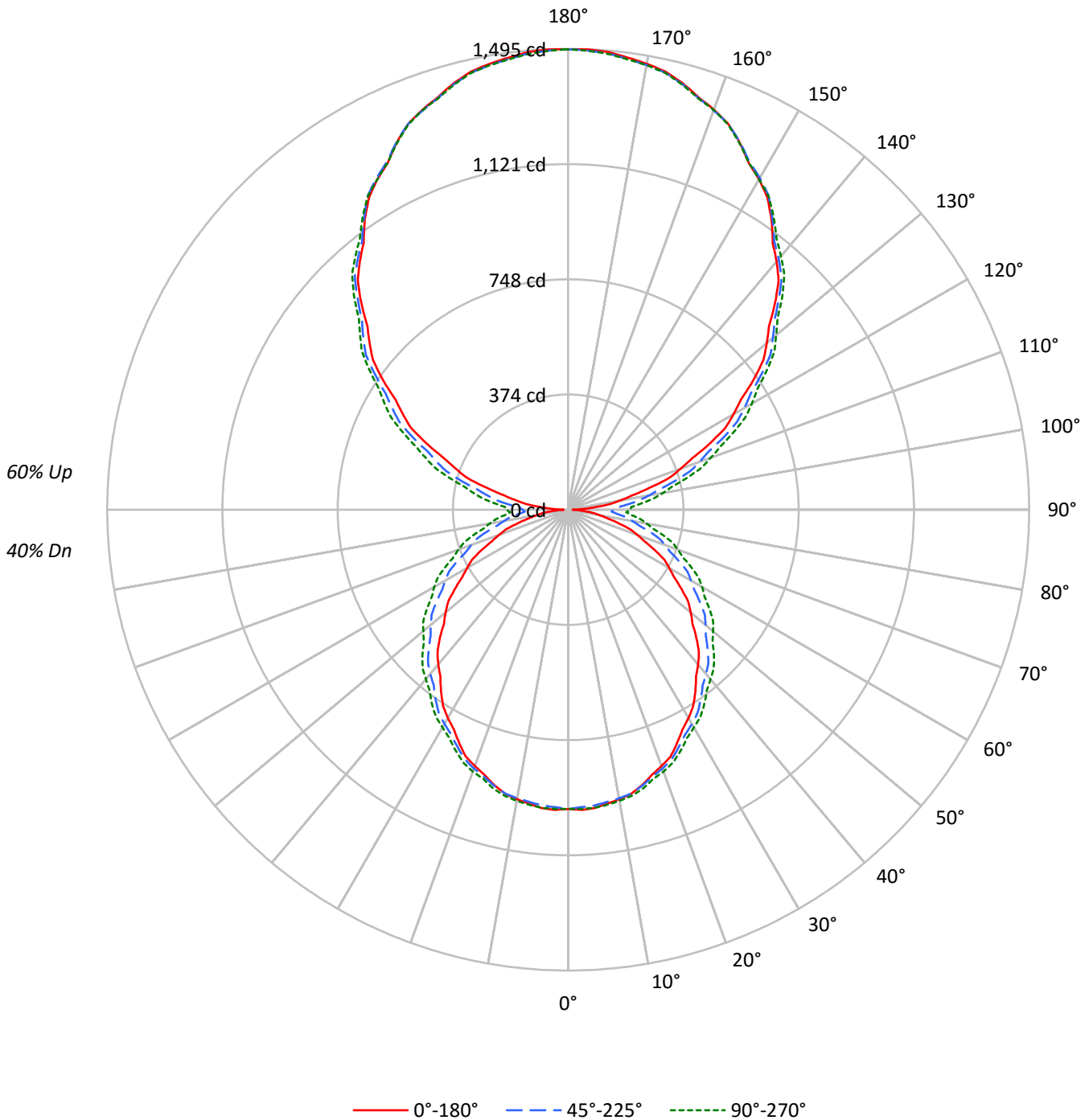
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	79	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	28	26	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	19	16
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14
7	55	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9

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

	0°	45°	90°
0°	10449	10449	10449
5°	10481	10185	10191
10°	10387	9951	9901
15°	10253	9685	9584
20°	10061	9380	9236
25°	9826	9030	8869
30°	9583	8714	8498
35°	9312	8382	8201
40°	9054	8079	7884
45°	8767	7788	7630
50°	8484	7501	7350
55°	8172	7206	7099
60°	7867	6907	6840
65°	7553	6588	6534
70°	7082	6231	6219
75°	6487	5819	5899
80°	5804	5417	5533
85°	5167	5142	5320



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.0	1.2
10°-20°	262.3	3.5
20°-30°	392.3	5.3
30°-40°	468.5	6.3
40°-50°	490.2	6.6
50°-60°	460.0	6.2
60°-70°	384.2	5.2
70°-80°	274.9	3.7
80°-90°	168.3	2.3
90°-100°	200.2	2.7
100°-110°	366.8	5.0
110°-120°	545.8	7.4
120°-130°	680.4	9.2
130°-140°	745.3	10.1
140°-150°	722.6	9.8
150°-160°	606.1	8.2
160°-170°	403.4	5.4
170°-180°	141.3	1.9
0°-30°	746.7	10.1
0°-40°	1215.2	16.4
0°-60°	2165.4	29.2
0°-90°	2992.9	40.4
90°-120°	1112.8	15.0
90°-150°	3261.2	44.0
90°-180°	4412.0	59.6
0°-180°	7404.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	972	969	963	971	971	92
15°	925	928	927	937	937	260
25°	835	846	849	862	863	385
35°	719	736	750	765	770	450
45°	588	613	640	659	668	453
55°	448	483	521	549	558	401
65°	310	351	398	428	440	306
75°	168	218	271	304	318	180
85°	52	105	161	195	207	54
90°	15	79	148	187	201	14
95°	81	131	192	227	240	87
105°	272	302	356	385	398	291
115°	504	521	556	581	590	499
125°	733	738	765	782	785	654
135°	949	955	965	979	983	731
145°	1150	1151	1155	1161	1161	718
155°	1315	1315	1316	1320	1313	605
165°	1433	1429	1429	1435	1428	404
175°	1490	1486	1485	1492	1484	141
180°	1494	1494	1494	1494	1494	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	974.9	974.3	973.8	973.2	972.7	971.6	970.2	968.7	967.1	965.6	967.1
5°	971.8	971.3	970.8	970.4	969.9	969.0	967.6	966.1	964.7	963.3	965.2
7.5°	962.2	962.3	962.4	962.5	962.6	962.0	960.6	959.3	957.9	956.5	958.9
10°	953.8	954.2	954.7	955.2	955.6	955.3	954.1	953.0	951.8	950.6	953.0
12.5°	943.6	944.3	944.9	945.6	946.2	946.2	945.4	944.6	943.8	943.0	945.1
15°	925.2	925.9	926.7	927.4	928.1	928.3	928.1	927.9	927.6	927.4	929.7
17.5°	902.0	903.4	904.8	906.2	907.6	908.3	908.2	908.1	908.0	907.9	910.0
20°	885.0	886.5	887.9	889.3	890.7	891.6	892.1	892.6	893.0	893.5	895.6
22.5°	867.3	868.7	870.1	871.5	872.9	873.9	874.6	875.3	876.0	876.6	879.3
25°	835.4	837.7	840.0	842.4	844.8	846.3	847.0	847.7	848.4	849.1	852.1
27.5°	803.2	805.9	808.6	811.2	814.0	816.0	817.5	819.0	820.5	822.0	824.7
30°	780.3	783.5	786.5	789.5	792.5	795.1	796.9	798.8	800.7	802.5	805.4
32.5°	755.0	758.4	761.8	765.3	768.7	771.6	774.1	776.6	779.0	781.4	784.5
35°	719.0	722.8	726.6	730.3	734.1	737.5	740.5	743.6	746.7	749.7	753.3
37.5°	681.0	685.2	689.4	693.7	697.9	701.9	705.7	709.4	713.2	716.9	720.9
40°	655.6	659.8	664.1	668.3	672.5	677.0	681.7	686.4	691.1	695.8	699.7
42.5°	627.6	632.9	638.0	643.2	648.3	653.4	658.2	663.2	668.0	673.0	677.3
45°	587.9	593.6	599.2	604.8	610.5	616.2	622.1	627.9	633.9	639.7	644.2
47.5°	546.2	552.7	559.1	565.4	571.8	578.3	585.1	591.8	598.5	605.2	610.3
50°	519.2	525.7	532.3	539.0	545.5	552.4	559.8	567.0	574.3	581.6	586.9
52.5°	490.4	497.4	504.3	511.3	518.3	525.7	533.8	541.8	549.9	557.8	563.5
55°	448.4	456.1	463.8	471.6	479.4	487.5	495.9	504.4	512.8	521.3	527.7
57.5°	407.3	415.4	423.4	431.5	439.7	448.3	457.6	466.9	476.1	485.3	491.7
60°	378.6	387.0	395.5	403.9	412.4	421.4	431.1	440.7	450.3	460.0	466.6
62.5°	351.4	360.1	368.8	377.4	386.1	395.5	405.7	415.9	426.1	436.3	442.8
65°	309.8	319.0	328.1	337.3	346.5	356.2	366.6	376.9	387.3	397.6	404.7
67.5°	267.5	277.2	287.0	296.7	306.4	316.6	327.1	337.6	348.1	358.7	366.4
70°	237.9	248.0	258.1	268.2	278.3	289.0	300.3	311.5	322.9	334.2	341.6
72.5°	210.9	221.0	231.1	241.2	251.3	262.2	273.8	285.5	297.1	308.7	316.5
75°	168.1	179.2	190.3	201.3	212.3	223.7	235.4	247.2	258.9	270.7	278.4
77.5°	130.9	142.1	153.2	164.3	175.4	186.9	198.8	210.7	222.5	234.3	242.5
80°	104.7	116.2	127.7	139.3	150.8	162.6	174.8	187.0	199.2	211.5	219.4
82.5°	81.8	93.5	105.2	116.9	128.7	140.7	153.1	165.5	177.9	190.4	198.3
85°	51.8	63.5	75.3	87.1	98.8	110.9	123.4	135.8	148.2	160.8	168.7
87.5°	28.4	40.6	52.8	65.0	77.3	89.7	102.4	115.0	127.6	140.4	148.6
90°	14.9	29.1	43.1	57.3	71.4	86.1	101.5	116.9	132.3	147.6	156.6
92.5°	41.3	53.4	65.6	77.8	90.0	102.9	116.6	130.4	144.0	157.7	166.4
95°	80.9	91.9	102.8	113.8	124.8	137.1	150.7	164.3	177.9	191.5	199.9
97.5°	133.3	143.0	152.6	162.2	171.9	182.9	195.4	207.9	220.5	233.0	241.2
100°	169.1	178.1	187.2	196.3	205.4	216.0	228.1	240.2	252.4	264.5	272.1
102.5°	210.5	218.2	225.9	233.6	241.4	251.4	263.7	276.0	288.3	300.7	308.1
105°	272.5	278.6	284.8	290.9	297.1	306.4	318.8	331.3	343.8	356.2	362.8
107.5°	343.5	348.6	353.7	358.8	363.9	371.7	382.2	392.7	403.3	413.8	420.9
110°	387.7	392.4	397.2	401.9	406.7	414.0	423.9	433.8	443.7	453.7	460.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	434.6	438.4	442.2	446.0	449.8	456.3	465.3	474.5	483.6	492.7	499.9
115°	503.9	507.6	511.2	514.7	518.4	524.1	532.1	540.0	548.0	555.9	561.8
117.5°	574.6	576.8	579.2	581.4	583.7	588.4	595.7	603.0	610.3	617.4	623.0
120°	617.9	620.7	623.4	626.1	628.8	633.5	639.9	646.3	652.8	659.2	664.4
122.5°	663.9	665.6	667.4	669.1	671.0	675.2	681.9	688.5	695.3	702.0	706.5
125°	733.0	733.8	734.6	735.4	736.1	739.6	746.0	752.2	758.5	764.9	768.7
127.5°	797.8	799.2	800.6	802.0	803.4	806.8	811.8	816.9	821.9	827.0	830.2
130°	840.9	842.8	844.7	846.5	848.4	851.2	855.2	859.1	862.9	866.9	870.3
132.5°	883.2	885.3	887.4	889.4	891.4	894.0	897.3	900.4	903.6	906.8	909.8
135°	949.0	950.3	951.7	953.0	954.3	956.1	958.5	960.8	963.1	965.4	968.7
137.5°	1009.8	1010.9	1012.1	1013.2	1014.3	1015.9	1018.0	1020.2	1022.3	1024.4	1027.0
140°	1051.2	1052.5	1053.8	1055.1	1056.4	1057.5	1058.5	1059.4	1060.5	1061.4	1064.7
142.5°	1089.6	1090.8	1092.0	1093.1	1094.2	1095.0	1095.6	1096.2	1096.8	1097.4	1100.3
145°	1149.7	1150.0	1150.3	1150.6	1150.9	1151.4	1152.3	1153.0	1153.8	1154.6	1156.2
147.5°	1201.2	1202.2	1203.2	1204.1	1205.1	1205.9	1206.6	1207.3	1208.0	1208.8	1209.3
150°	1237.9	1238.4	1238.9	1239.4	1240.0	1240.5	1241.0	1241.5	1242.0	1242.5	1242.5
152.5°	1267.9	1268.7	1269.4	1270.1	1270.8	1271.3	1271.6	1272.0	1272.3	1272.6	1273.0
155°	1315.3	1315.3	1315.3	1315.3	1315.3	1315.5	1315.8	1316.0	1316.3	1316.5	1317.6
157.5°	1355.6	1355.3	1355.0	1354.7	1354.4	1354.3	1354.6	1354.8	1355.0	1355.2	1356.3
160°	1381.0	1380.5	1380.0	1379.5	1379.0	1378.7	1378.7	1378.7	1378.7	1378.7	1380.0
162.5°	1403.5	1402.8	1402.1	1401.4	1400.7	1400.4	1400.6	1400.8	1401.0	1401.2	1402.5
165°	1432.7	1431.9	1431.1	1430.3	1429.6	1429.2	1429.2	1429.2	1429.2	1429.2	1430.7
167.5°	1455.9	1454.8	1453.8	1452.8	1451.7	1451.3	1451.5	1451.7	1451.9	1452.1	1453.7
170°	1469.1	1467.9	1466.9	1465.9	1464.8	1464.3	1464.3	1464.3	1464.3	1464.3	1466.1
172.5°	1479.4	1478.3	1477.2	1476.2	1475.2	1474.7	1474.7	1474.7	1474.7	1474.7	1476.3
175°	1490.2	1489.1	1488.0	1487.0	1486.0	1485.4	1485.4	1485.4	1485.4	1485.4	1487.0
177.5°	1494.6	1493.8	1493.0	1492.1	1491.3	1490.9	1490.9	1490.9	1490.9	1490.9	1492.1
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	968.7	970.2	971.6	972.3	972.1	971.9	971.7	971.6
5°	967.0	969.0	970.8	971.6	971.4	971.2	971.0	970.7
7.5°	961.2	963.6	965.9	966.9	966.6	966.4	966.1	965.8
10°	955.3	957.7	960.0	961.0	960.5	960.0	959.6	959.1
12.5°	947.4	949.5	951.6	952.5	952.0	951.6	951.1	950.6
15°	932.0	934.4	936.8	937.8	937.6	937.4	937.1	936.9
17.5°	912.1	914.2	916.4	917.3	917.0	916.6	916.3	915.9
20°	897.8	899.9	902.0	903.1	903.4	903.6	903.8	904.1
22.5°	881.9	884.6	887.3	888.6	888.5	888.3	888.2	888.0
25°	855.3	858.3	861.3	862.8	862.8	862.8	862.8	862.8
27.5°	827.3	829.9	832.5	833.9	834.1	834.4	834.6	834.8
30°	808.2	811.0	813.9	815.3	815.3	815.3	815.3	815.3
32.5°	787.4	790.4	793.5	795.3	795.8	796.4	796.9	797.5
35°	756.8	760.3	763.8	766.1	767.0	767.9	768.8	769.8
37.5°	724.9	728.9	732.9	735.3	736.0	736.8	737.5	738.3
40°	703.8	707.7	711.8	714.2	715.2	716.1	717.0	718.0
42.5°	681.7	686.0	690.4	693.3	694.6	695.9	697.2	698.5
45°	648.6	653.1	657.6	660.8	662.7	664.5	666.4	668.3
47.5°	615.3	620.4	625.4	628.6	630.1	631.6	633.0	634.4
50°	592.4	597.7	603.2	606.7	608.3	610.0	611.7	613.3
52.5°	569.1	574.7	580.3	584.1	586.1	588.1	590.2	592.2
55°	534.0	540.4	546.6	550.8	552.7	554.5	556.4	558.4
57.5°	498.2	504.5	510.9	515.2	517.5	519.7	521.8	524.0
60°	473.1	479.7	486.3	490.9	493.4	496.0	498.7	501.2
62.5°	449.5	456.1	462.6	467.1	469.5	471.9	474.3	476.7
65°	411.7	418.7	425.8	430.5	432.8	435.2	437.6	439.9
67.5°	374.1	381.8	389.5	394.4	396.3	398.3	400.3	402.2
70°	349.2	356.7	364.3	369.1	371.5	373.9	376.2	378.6
72.5°	324.2	331.8	339.6	344.7	347.0	349.3	351.6	354.1
75°	286.2	294.0	301.7	307.0	309.8	312.7	315.5	318.3
77.5°	250.6	258.8	267.0	272.2	274.4	276.5	278.7	280.8
80°	227.4	235.4	243.5	248.6	251.0	253.3	255.7	258.0
82.5°	206.3	214.3	222.3	227.4	229.8	232.2	234.5	236.8
85°	176.7	184.7	192.7	197.8	200.2	202.6	204.9	207.2
87.5°	156.7	164.9	173.1	178.4	181.0	183.4	185.8	188.2
90°	165.7	174.7	183.8	189.8	192.6	195.5	198.3	201.2
92.5°	175.0	183.7	192.3	197.5	199.4	201.3	203.1	205.0
95°	208.1	216.5	224.8	230.1	232.5	234.9	237.2	239.5
97.5°	249.3	257.5	265.8	270.9	273.3	275.5	277.7	279.9
100°	279.6	287.3	294.9	300.1	303.0	305.9	308.7	311.5
102.5°	315.5	323.0	330.3	335.2	337.4	339.6	341.9	344.2
105°	369.4	376.0	382.5	387.2	389.8	392.4	395.1	397.7
107.5°	428.1	435.3	442.3	446.8	448.6	450.3	452.0	453.8
110°	468.0	475.1	482.3	486.6	488.0	489.3	490.7	492.0





TEST NUMBER: P331995-840

CATALOG NUMBER: S123DIP-S775D1195U840-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	507.1	514.2	521.4	526.0	528.0	530.0	531.9	533.8
115°	567.6	573.6	579.5	583.3	584.9	586.5	588.1	589.8
117.5°	628.5	634.1	639.6	643.0	644.1	645.2	646.3	647.3
120°	669.5	674.7	679.8	683.0	684.1	685.2	686.3	687.4
122.5°	711.0	715.6	720.1	722.9	723.8	724.7	725.6	726.5
125°	772.6	776.5	780.4	782.6	783.3	783.9	784.5	785.1
127.5°	833.4	836.6	839.8	841.6	841.9	842.3	842.7	843.1
130°	873.7	877.2	880.6	882.1	881.7	881.2	880.8	880.4
132.5°	912.8	915.8	918.9	920.5	920.7	920.9	921.1	921.3
135°	971.8	975.0	978.2	980.1	980.8	981.4	982.1	982.7
137.5°	1029.7	1032.3	1034.9	1036.3	1036.5	1036.6	1036.8	1037.0
140°	1067.9	1071.2	1074.5	1075.8	1075.1	1074.5	1073.8	1073.2
142.5°	1103.3	1106.1	1109.0	1110.3	1110.1	1109.8	1109.6	1109.4
145°	1157.8	1159.4	1161.0	1161.8	1161.7	1161.6	1161.4	1161.3
147.5°	1209.9	1210.4	1211.0	1210.9	1210.2	1209.5	1208.8	1208.1
150°	1242.5	1242.5	1242.5	1242.0	1240.9	1239.8	1238.7	1237.7
152.5°	1273.4	1273.8	1274.2	1273.8	1272.6	1271.3	1270.1	1268.8
155°	1318.6	1319.6	1320.7	1320.3	1318.5	1316.7	1314.8	1312.9
157.5°	1357.4	1358.5	1359.6	1359.4	1358.0	1356.5	1355.0	1353.5
160°	1381.3	1382.6	1383.9	1384.0	1383.0	1381.9	1380.9	1379.9
162.5°	1403.8	1405.1	1406.4	1406.2	1404.5	1402.9	1401.2	1399.6
165°	1432.3	1433.8	1435.4	1435.2	1433.4	1431.6	1429.8	1427.9
167.5°	1455.3	1456.9	1458.5	1458.5	1456.9	1455.3	1453.7	1452.1
170°	1467.9	1469.9	1471.7	1471.7	1469.9	1467.9	1466.1	1464.3
172.5°	1477.9	1479.6	1481.2	1481.1	1479.1	1477.3	1475.5	1473.7
175°	1488.5	1490.2	1491.7	1491.6	1489.8	1487.9	1486.1	1484.3
177.5°	1493.4	1494.6	1495.8	1495.7	1494.3	1492.8	1491.4	1490.0
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7

(END OF REPORT)