

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: P332675-940

Luminaire Tested: **S124DIP-S1195D365U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332675-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D365U940-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5502.1 lumens  
Efficiency: N/A  
Efficacy: 110.5 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: Semi-Direct

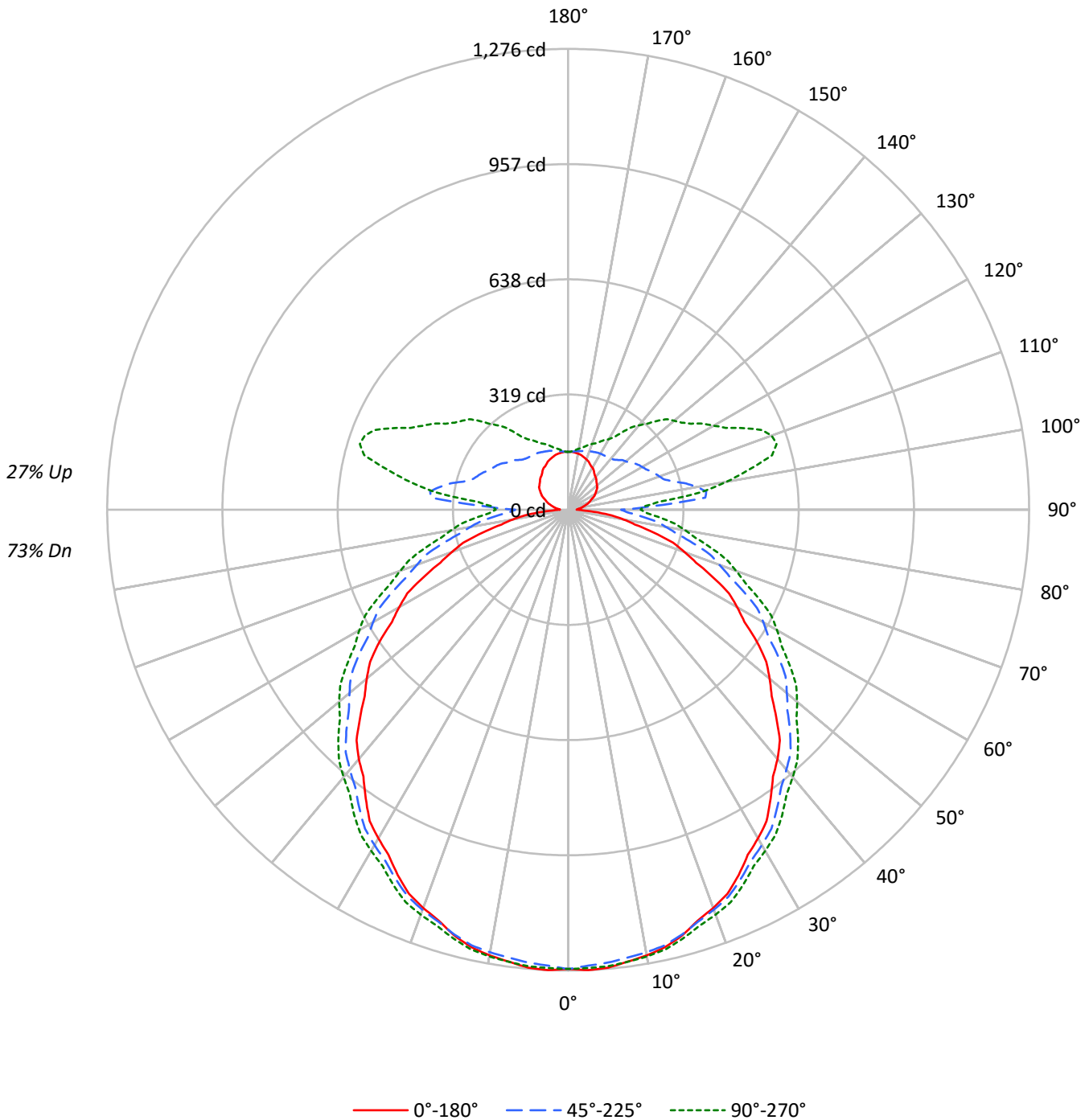
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	101	96	92	88	96	91	87	84	82	79	76	74	71	69	66	64	62	58
2	92	83	76	70	87	79	73	67	71	66	62	64	60	56	57	54	51	48
3	83	73	65	58	79	69	62	56	62	56	51	56	51	47	50	46	43	40
4	76	64	55	49	72	61	53	47	55	49	43	50	44	40	44	40	37	34
5	70	57	48	42	66	54	46	40	49	42	37	44	39	34	40	35	32	29
6	64	51	42	36	61	49	41	35	44	37	32	40	34	30	36	31	28	25
7	59	46	38	32	56	44	36	31	40	33	28	36	31	26	33	28	24	22
8	55	42	34	28	52	40	32	27	37	30	25	33	28	24	30	25	22	20
9	51	38	30	25	49	37	29	24	34	27	23	31	25	21	28	23	20	18
10	48	35	28	22	46	34	27	22	31	25	20	28	23	19	26	21	18	16

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

	0°	45°	90°
0°	10266	10266	10266
5°	10297	10032	10061
10°	10234	9869	9861
15°	10142	9679	9625
20°	10004	9469	9396
25°	9848	9234	9144
30°	9679	9000	8885
35°	9488	8760	8658
40°	9335	8533	8422
45°	9109	8323	8219
50°	8917	8080	8004
55°	8719	7852	7753
60°	8410	7562	7524
65°	8071	7250	7242
70°	7660	6893	6914
75°	7091	6501	6617
80°	6453	6124	6326
85°	5641	5792	6154



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	120.4	2.2
10°-20°	345.0	6.3
20°-30°	521.7	9.5
30°-40°	631.2	11.5
40°-50°	667.3	12.1
50°-60°	628.0	11.4
60°-70°	521.0	9.5
70°-80°	366.0	6.7
80°-90°	207.8	3.8
90°-100°	238.7	4.3
100°-110°	332.1	6.0
110°-120°	277.0	5.0
120°-130°	216.1	3.9
130°-140°	166.4	3.0
140°-150°	118.7	2.2
150°-160°	81.4	1.5
160°-170°	47.8	0.9
170°-180°	15.6	0.3
0°-30°	987.1	17.9
0°-40°	1618.2	29.4
0°-60°	2913.5	53.0
0°-90°	4008.2	72.8
90°-120°	847.8	15.4
90°-150°	1349.0	24.5
90°-180°	1494.0	27.2
0°-180°	5502.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1272	1272	1272	1272	1272	
5°	1273	1268	1259	1269	1269	121
15°	1220	1221	1218	1229	1229	344
25°	1116	1125	1129	1144	1146	514
35°	977	994	1008	1027	1032	611
45°	814	842	869	892	900	629
55°	638	668	710	738	748	568
65°	441	487	535	570	582	437
75°	245	298	357	396	410	260
85°	75	136	199	240	256	80
90°	23	83	147	187	200	16
95°	29	99	381	288	252	26
105°	50	96	301	573	584	54
115°	74	105	251	451	534	73
125°	96	114	223	367	415	86
135°	110	131	195	302	348	86
145°	125	142	181	234	262	79
155°	141	152	176	199	208	65
165°	154	158	169	178	181	43
175°	160	160	162	164	163	15
180°	160	160	160	160	160	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1276.1	1275.3	1274.6	1273.8	1273.1	1271.7	1269.6	1267.7	1265.6	1263.6	1265.3
5°	1272.9	1272.0	1271.0	1270.2	1269.2	1267.6	1265.3	1263.1	1261.0	1258.7	1261.2
7.5°	1262.1	1261.6	1261.0	1260.4	1259.9	1258.6	1256.9	1255.0	1253.1	1251.3	1254.2
10°	1253.0	1252.7	1252.4	1252.1	1251.8	1250.8	1249.2	1247.7	1246.1	1244.5	1247.3
12.5°	1240.5	1240.5	1240.4	1240.3	1240.3	1239.7	1238.6	1237.5	1236.4	1235.4	1238.0
15°	1220.3	1220.6	1220.9	1221.2	1221.6	1221.2	1220.3	1219.3	1218.3	1217.5	1220.3
17.5°	1192.7	1193.6	1194.5	1195.5	1196.4	1196.9	1196.7	1196.4	1196.2	1196.1	1199.0
20°	1173.3	1174.2	1175.2	1176.2	1177.1	1177.7	1178.0	1178.4	1178.7	1179.0	1182.1
22.5°	1151.6	1152.8	1154.1	1155.2	1156.5	1157.4	1157.9	1158.5	1159.0	1159.6	1162.8
25°	1116.3	1118.2	1120.2	1122.0	1123.9	1125.3	1126.3	1127.2	1128.2	1129.2	1132.7
27.5°	1077.0	1079.9	1082.6	1085.4	1088.2	1090.3	1091.7	1093.2	1094.7	1096.1	1099.3
30°	1050.8	1053.4	1055.9	1058.5	1061.0	1063.4	1065.5	1067.7	1070.0	1072.2	1075.7
32.5°	1022.3	1025.4	1028.4	1031.4	1034.5	1037.2	1039.7	1042.2	1044.6	1047.1	1051.1
35°	976.8	980.6	984.4	988.2	991.9	995.4	998.6	1001.7	1005.0	1008.1	1012.5
37.5°	930.9	935.3	939.7	944.1	948.4	952.5	956.4	960.4	964.3	968.2	972.8
40°	901.3	905.4	909.5	913.6	917.7	922.0	926.5	930.9	935.3	939.8	944.5
42.5°	867.2	871.7	876.4	881.0	885.6	890.6	895.7	900.9	906.1	911.3	916.6
45°	814.5	820.5	826.5	832.5	838.5	844.5	850.5	856.6	862.6	868.6	874.0
47.5°	764.0	770.3	776.5	782.7	788.9	795.5	802.5	809.4	816.4	823.3	828.8
50°	727.6	734.6	741.5	748.5	755.5	762.4	769.4	776.3	783.3	790.2	796.6
52.5°	691.2	698.1	705.1	712.0	719.0	726.5	734.4	742.4	750.4	758.4	764.7
55°	637.9	644.5	651.2	657.8	664.5	672.5	682.1	691.5	701.1	710.5	716.8
57.5°	578.4	586.7	594.9	603.1	611.3	620.1	629.5	639.0	648.5	657.8	665.4
60°	539.7	547.9	556.1	564.4	572.6	581.9	592.4	602.8	613.2	623.7	631.0
62.5°	502.0	511.0	520.0	529.1	538.0	547.7	558.2	568.6	579.1	589.5	596.7
65°	441.4	451.6	461.6	471.8	481.9	492.3	503.1	513.9	524.6	535.4	543.3
67.5°	383.0	393.8	404.6	415.3	426.1	437.2	448.7	460.2	471.7	483.3	491.3
70°	343.1	353.9	364.7	375.4	386.2	397.6	409.6	421.6	433.6	445.7	454.2
72.5°	304.4	315.4	326.5	337.4	348.5	360.3	373.2	385.9	398.7	411.5	419.8
75°	245.0	256.6	268.3	280.0	291.8	304.3	317.5	330.8	344.1	357.4	366.2
77.5°	189.4	201.8	214.2	226.6	239.0	252.2	266.1	280.0	293.9	307.8	316.8
80°	155.2	167.8	180.5	193.1	205.8	219.1	233.0	247.0	260.9	274.8	284.3
82.5°	121.0	134.2	147.4	160.5	173.7	187.3	201.2	215.1	229.0	242.9	252.6
85°	75.4	88.7	102.0	115.3	128.6	142.4	156.6	170.9	185.1	199.4	208.8
87.5°	42.2	55.3	68.3	81.3	94.3	107.7	121.9	135.8	149.7	163.7	172.8
90°	23.1	36.4	50.0	63.0	76.0	89.1	104.6	118.2	132.4	146.6	155.5
92.5°	25.2	38.3	52.6	67.9	83.8	102.9	132.5	170.6	208.0	234.1	226.3
95°	28.9	40.3	53.9	68.4	86.4	111.4	151.8	216.4	304.7	380.8	396.5
97.5°	35.5	44.4	56.2	68.9	84.4	106.4	140.4	195.9	283.6	385.6	455.1
100°	39.6	47.9	58.3	70.3	84.5	104.9	135.8	183.8	260.4	361.6	450.8
102.5°	44.7	52.3	61.5	72.3	85.2	104.5	133.4	176.8	243.6	334.5	426.0
105°	49.7	57.0	64.8	75.0	86.9	105.1	132.0	169.9	225.7	300.7	382.7
107.5°	58.1	63.9	70.7	79.9	90.5	107.6	132.6	167.5	216.2	278.3	346.6
110°	62.8	67.9	73.8	82.0	92.1	108.4	133.3	166.5	212.2	269.0	327.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	67.1	71.7	77.5	84.9	94.5	110.3	134.2	165.6	208.6	261.0	313.9
115°	73.5	77.2	82.3	88.3	97.1	112.2	134.9	163.9	203.3	251.3	297.9
117.5°	81.5	84.1	87.7	92.9	100.2	114.7	136.1	162.9	198.6	242.5	285.8
120°	85.9	87.5	90.7	95.1	101.4	115.2	136.4	161.9	195.4	236.7	278.0
122.5°	91.0	91.8	94.2	97.6	103.6	116.6	137.2	161.3	192.5	230.8	270.4
125°	96.1	97.1	98.6	101.8	107.5	120.1	139.4	161.8	189.6	223.3	259.6
127.5°	101.7	102.5	104.3	108.0	114.0	125.7	142.8	162.1	185.6	214.0	246.2
130°	103.9	104.8	107.0	111.5	117.1	128.6	144.4	161.8	182.9	208.1	237.7
132.5°	107.1	107.8	110.8	114.9	121.1	131.6	146.4	162.5	181.1	203.3	230.4
135°	110.3	111.6	114.8	120.1	126.7	136.0	148.6	162.2	177.4	194.7	218.0
137.5°	114.9	115.8	119.0	123.8	130.3	138.5	149.3	161.0	173.4	188.1	207.8
140°	118.2	118.9	122.0	127.0	133.3	140.9	150.6	161.0	172.1	184.4	202.1
142.5°	120.6	121.5	124.7	129.7	136.0	143.1	152.1	161.3	171.3	182.1	197.8
145°	125.3	125.9	128.8	132.9	138.5	145.3	153.5	162.0	171.1	180.9	192.9
147.5°	130.9	130.9	133.3	137.6	142.2	148.3	156.0	163.5	171.5	179.8	188.9
150°	134.4	134.4	136.6	140.1	144.5	150.3	157.3	164.2	171.5	179.0	186.9
152.5°	136.5	136.5	139.0	142.5	146.6	152.1	158.3	164.7	170.9	177.7	184.9
155°	140.9	141.2	143.1	146.2	149.7	154.4	159.8	165.1	170.2	175.8	181.8
157.5°	145.3	145.3	147.1	149.5	152.6	156.3	160.9	165.1	169.3	173.9	178.8
160°	148.1	148.1	149.4	151.6	154.1	157.6	161.4	165.1	168.6	172.4	176.5
162.5°	150.6	150.4	151.4	153.4	155.6	158.4	161.8	165.1	167.8	170.9	174.5
165°	153.5	153.5	154.1	155.7	157.3	159.2	162.0	164.5	166.4	168.6	171.1
167.5°	156.3	156.0	156.3	157.5	158.4	159.9	161.9	163.7	164.9	166.3	168.1
170°	157.6	157.3	157.6	158.5	159.2	160.1	161.7	163.3	163.9	164.8	166.1
172.5°	158.8	158.5	158.5	159.3	159.6	160.3	161.4	162.7	162.9	163.3	164.3
175°	160.1	159.8	159.8	160.1	160.4	160.4	161.0	162.0	161.7	161.7	162.3
177.5°	160.7	160.4	160.2	160.4	160.4	160.4	160.7	161.1	160.7	160.7	161.0
180°	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1267.1	1268.9	1270.7	1271.4	1271.1	1270.9	1270.7	1270.4
5°	1263.8	1266.3	1268.8	1270.0	1269.6	1269.4	1269.0	1268.7
7.5°	1257.0	1259.9	1262.8	1264.0	1263.6	1263.4	1263.0	1262.8
10°	1250.2	1253.0	1255.9	1257.1	1256.9	1256.5	1256.2	1255.9
12.5°	1240.5	1243.1	1245.7	1247.1	1247.0	1246.9	1246.8	1246.8
15°	1223.2	1226.0	1228.8	1230.1	1229.8	1229.5	1229.1	1228.8
17.5°	1201.9	1204.8	1207.7	1209.1	1208.8	1208.5	1208.3	1208.0
20°	1185.4	1188.5	1191.7	1193.2	1193.2	1193.2	1193.2	1193.2
22.5°	1165.9	1169.1	1172.2	1174.1	1174.7	1175.1	1175.6	1176.2
25°	1136.1	1139.6	1143.1	1145.0	1145.3	1145.6	1145.9	1146.2
27.5°	1102.6	1105.8	1109.0	1110.8	1111.3	1111.6	1112.0	1112.3
30°	1079.1	1082.6	1086.1	1088.2	1088.8	1089.4	1090.0	1090.7
32.5°	1055.1	1059.1	1063.1	1065.4	1066.0	1066.7	1067.3	1067.9
35°	1017.0	1021.4	1025.8	1028.5	1029.5	1030.5	1031.4	1032.3
37.5°	977.2	981.7	986.2	989.0	990.0	991.0	992.0	993.0
40°	949.2	954.0	958.8	961.8	963.0	964.3	965.5	966.8
42.5°	921.8	927.0	932.3	935.4	936.5	937.5	938.4	939.5
45°	879.3	884.8	890.1	893.6	895.2	896.7	898.3	899.9
47.5°	834.5	840.0	845.6	849.3	851.2	853.1	855.0	856.9
50°	802.9	809.2	815.6	819.7	821.6	823.5	825.4	827.2
52.5°	771.1	777.4	783.6	787.8	789.7	791.6	793.4	795.4
55°	723.2	729.5	735.8	739.9	741.8	743.8	745.6	747.5
57.5°	672.9	680.5	688.0	692.6	694.4	696.2	697.9	699.7
60°	638.2	645.5	652.7	657.6	660.2	662.7	665.3	667.8
62.5°	604.0	611.4	618.6	623.5	626.1	628.6	631.1	633.6
65°	551.2	559.1	567.0	572.2	574.8	577.3	579.9	582.4
67.5°	499.4	507.4	515.4	520.7	523.2	525.6	528.1	530.6
70°	462.8	471.3	479.8	485.3	487.4	489.6	491.9	494.1
72.5°	428.1	436.4	444.7	450.0	452.5	455.0	457.4	459.9
75°	375.1	384.0	392.8	398.7	401.5	404.4	407.2	410.1
77.5°	325.8	334.8	343.8	349.8	352.8	355.9	358.9	361.9
80°	293.8	303.3	312.8	318.8	321.3	323.9	326.4	329.0
82.5°	262.4	272.2	281.9	288.2	291.0	293.7	296.5	299.3
85°	218.3	227.8	237.3	243.6	246.8	249.9	253.2	256.3
87.5°	182.1	191.4	200.5	206.5	209.4	212.2	215.0	217.8
90°	165.0	174.5	184.0	189.8	192.7	195.6	197.7	200.3
92.5°	213.8	207.5	206.9	206.3	205.1	206.0	207.4	209.9
95°	374.5	334.2	300.5	275.6	263.1	256.1	253.2	252.0
97.5°	476.6	466.8	444.3	416.9	397.0	380.7	374.0	370.1
100°	505.4	520.2	513.4	495.3	470.2	453.2	445.9	445.6
102.5°	497.4	537.0	549.7	545.4	531.0	519.6	512.1	512.6
105°	462.8	525.2	564.3	582.5	585.6	585.6	583.7	584.4
107.5°	418.3	484.1	535.8	569.0	586.8	596.3	601.7	604.8
110°	391.0	452.8	505.8	545.4	570.2	586.0	594.2	599.6





TEST NUMBER: P332675-940

CATALOG NUMBER: S124DIP-S1195D365U940-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.9	424.2	474.4	513.8	541.7	560.3	570.8	577.9
115°	344.3	390.0	433.9	468.7	495.8	516.9	529.2	534.0
117.5°	327.2	365.9	401.4	431.7	455.4	473.9	486.6	491.1
120°	317.4	353.1	384.7	411.4	431.9	448.4	459.1	465.0
122.5°	308.7	343.4	372.6	396.5	414.0	428.1	437.4	443.1
125°	295.8	329.0	356.7	378.0	392.5	403.5	411.4	415.2
127.5°	280.4	311.9	339.3	359.7	374.5	384.8	392.0	396.0
130°	269.6	300.2	327.3	347.9	362.7	372.4	379.3	383.2
132.5°	259.2	288.1	314.4	334.8	349.4	360.2	366.8	370.7
135°	242.9	268.5	292.7	312.0	326.5	337.2	344.2	347.9
137.5°	228.9	250.8	271.6	289.0	302.4	312.6	318.3	322.3
140°	220.6	239.6	257.9	273.9	286.6	295.1	301.0	305.1
142.5°	213.8	230.5	246.3	260.2	271.3	279.0	284.3	287.4
145°	204.8	217.5	228.8	239.2	248.3	255.0	259.4	262.3
147.5°	197.5	206.3	214.1	221.6	228.5	234.1	237.5	239.1
150°	194.5	201.7	208.0	213.7	218.7	222.8	224.7	225.0
152.5°	191.7	198.0	203.8	208.4	212.7	216.0	217.1	217.5
155°	187.5	192.5	197.2	201.1	204.2	206.7	207.7	207.7
157.5°	183.1	187.3	191.3	194.3	196.6	198.6	199.1	199.1
160°	180.3	183.7	187.2	189.8	191.6	193.5	193.9	193.9
162.5°	177.5	180.5	183.2	185.5	186.8	188.7	189.0	188.8
165°	173.6	175.6	177.7	179.3	180.6	181.8	181.6	181.2
167.5°	170.0	171.4	173.2	174.1	174.7	175.6	175.5	175.2
170°	167.6	168.6	169.9	170.9	171.5	171.7	171.5	171.5
172.5°	165.7	166.3	167.1	167.8	168.2	168.4	168.2	167.6
175°	162.9	163.3	163.9	163.9	163.9	164.5	163.9	163.3
177.5°	161.1	161.4	161.4	161.7	161.4	161.7	161.1	160.7
180°	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4

(END OF REPORT)