

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: P332674-940

Luminaire Tested: **SA4XXDIP-C1195D365U940-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332674-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C1195D365U940-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

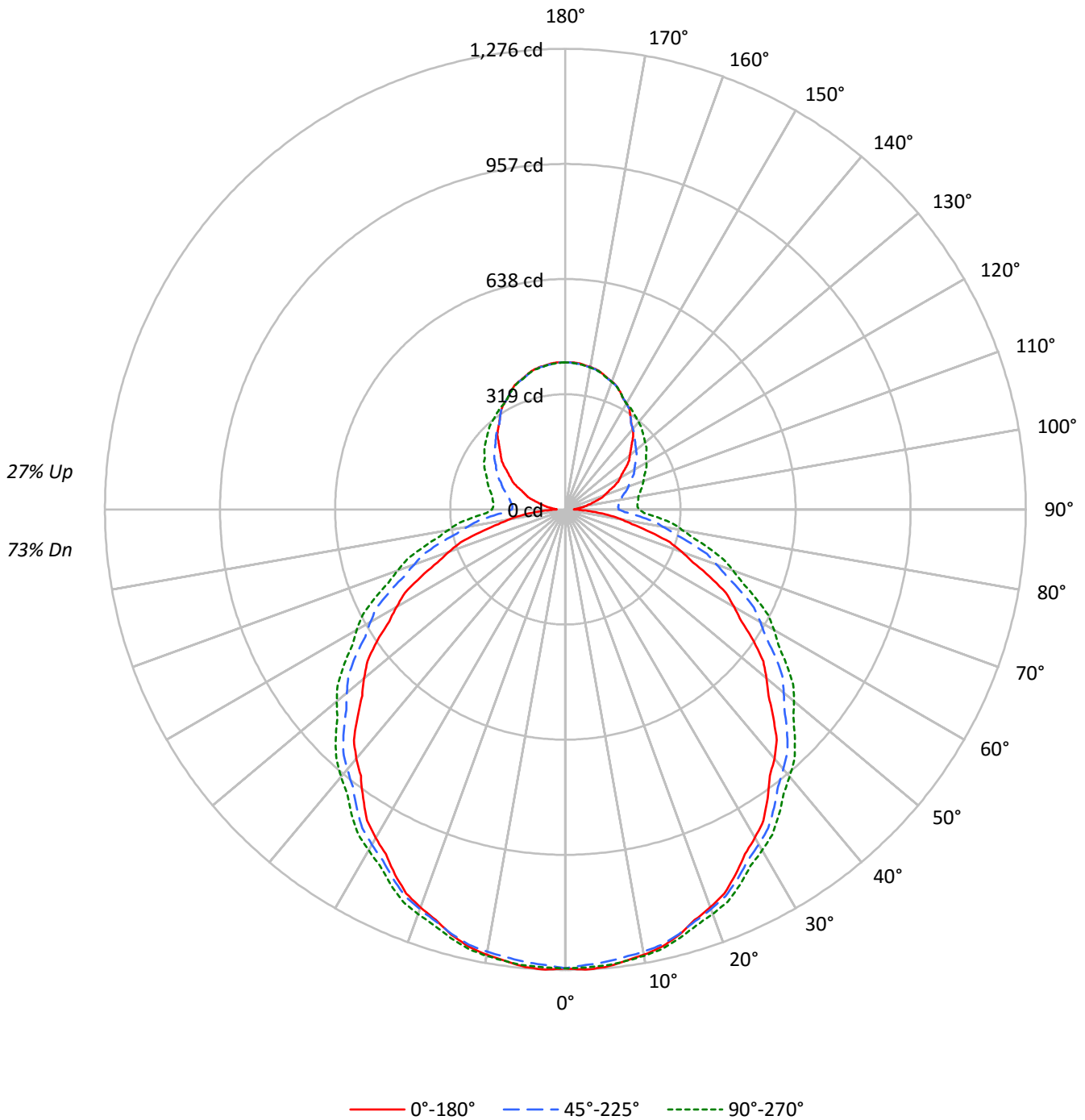
Lumens per Lamp: N/A  
Luminaire Lumens: 5466.1 lumens  
Efficiency: N/A  
Efficacy: 109.8 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (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	50	30	10	0	
RCR																						
0	113	113	113	113	107	107	107	107	96	96	96	87	87	87	78	78	78	73				
1	102	96	92	88	96	92	87	84	82	79	76	74	72	69	66	64	63	59				
2	92	83	76	70	87	79	73	68	71	66	62	64	60	57	57	54	52	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	45	40	37	34				
5	70	57	48	42	66	54	46	40	49	43	37	45	39	35	40	36	32	29				
6	64	51	42	36	61	49	41	35	44	38	32	40	34	30	36	32	28	25				
7	60	46	38	32	56	44	36	31	40	33	29	37	31	27	33	28	25	22				
8	55	42	34	28	52	40	32	27	37	30	25	33	28	24	30	26	22	20				
9	52	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	21	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	12.2
50°-60°	628.0	11.5
60°-70°	521.0	9.5
70°-80°	366.0	6.7
80°-90°	208.1	3.8
90°-100°	149.7	2.7
100°-110°	170.5	3.1
110°-120°	196.1	3.6
120°-130°	212.6	3.9
130°-140°	215.0	3.9
140°-150°	199.6	3.7
150°-160°	165.4	3.0
160°-170°	110.0	2.0
170°-180°	38.5	0.7
0°-30°	987.1	18.1
0°-40°	1618.2	29.6
0°-60°	2913.5	53.3
0°-90°	4008.6	73.3
90°-120°	516.4	9.4
90°-150°	1143.6	20.9
90°-180°	1458.0	26.7
0°-180°	5466.1	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°	24	84	148	189	203	16
95°	38	88	148	186	200	36
105°	86	116	169	204	218	92
115°	146	160	204	234	244	144
125°	206	206	240	265	274	184
135°	261	263	273	294	303	202
145°	315	315	315	323	328	197
155°	359	359	359	360	359	165
165°	391	390	390	391	390	110
175°	407	405	405	407	405	39
180°	407	407	407	407	407	



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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°	42.4	55.4	68.5	81.5	94.6	108.1	122.1	136.1	150.0	164.0	173.3
90°	23.7	37.2	50.6	64.0	77.4	91.2	105.4	119.6	133.8	147.9	157.5
92.5°	28.4	40.7	53.0	65.2	77.5	90.6	104.6	118.6	132.6	146.6	155.8
95°	37.5	48.5	59.6	70.6	81.7	94.0	107.5	120.9	134.4	147.8	156.6
97.5°	49.8	59.3	68.8	78.3	87.7	99.2	112.6	126.1	139.5	152.9	161.5
100°	59.7	68.3	76.8	85.3	93.8	104.5	117.5	130.5	143.5	156.4	165.1
102.5°	71.3	78.7	86.1	93.4	100.7	110.7	123.3	136.0	148.6	161.3	169.8
105°	86.2	92.6	99.1	105.4	111.8	121.0	133.0	145.0	156.9	169.0	177.1
107.5°	104.5	109.8	115.1	120.4	125.6	133.8	144.9	156.0	167.2	178.3	186.3
110°	116.0	120.6	125.1	129.7	134.3	142.0	153.1	164.1	175.0	186.1	193.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	128.0	131.9	135.9	139.8	143.7	151.0	161.4	171.8	182.3	192.8	199.7
115°	145.9	148.7	151.6	154.4	157.3	163.7	173.7	183.7	193.7	203.7	210.5
117.5°	164.2	165.9	167.7	169.4	171.2	176.7	186.1	195.5	204.7	214.1	220.4
120°	175.4	176.6	177.8	179.1	180.3	185.4	194.4	203.3	212.3	221.2	227.2
122.5°	188.2	188.5	188.9	189.1	189.5	193.9	202.4	211.1	219.6	228.2	234.3
125°	205.8	205.5	205.2	204.8	204.6	208.3	216.2	224.0	231.8	239.6	245.5
127.5°	222.7	222.6	222.5	222.4	222.3	225.2	231.1	237.1	243.1	249.1	254.6
130°	233.6	233.5	233.4	233.4	233.3	235.7	240.8	245.8	250.9	256.0	261.5
132.5°	246.0	245.8	245.7	245.5	245.4	247.3	251.3	255.3	259.3	263.2	268.6
135°	260.9	261.4	261.7	262.2	262.6	263.9	266.1	268.3	270.5	272.8	277.7
137.5°	278.7	278.6	278.5	278.3	278.2	278.7	279.9	281.2	282.3	283.5	287.9
140°	290.5	290.3	290.2	290.0	289.8	289.9	290.3	290.5	290.9	291.1	295.2
142.5°	300.2	300.3	300.4	300.5	300.5	300.4	300.2	300.0	299.7	299.4	303.1
145°	315.0	315.0	314.9	314.9	314.8	314.9	314.9	315.0	315.0	315.1	316.9
147.5°	329.8	329.8	329.8	329.8	329.9	329.8	329.8	329.8	329.8	329.7	329.8
150°	338.9	338.9	338.9	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
152.5°	346.3	346.4	346.5	346.6	346.8	346.8	346.9	347.0	347.0	347.1	347.2
155°	359.2	359.2	359.2	359.2	359.2	359.2	359.1	359.0	359.0	358.9	359.2
157.5°	370.3	370.1	370.1	370.0	369.8	369.7	369.7	369.7	369.7	369.7	369.9
160°	376.8	376.7	376.7	376.7	376.6	376.5	376.5	376.4	376.3	376.2	376.5
162.5°	382.9	382.7	382.5	382.4	382.2	382.1	382.0	381.9	381.8	381.7	382.2
165°	391.0	390.8	390.7	390.4	390.2	390.0	389.9	389.8	389.6	389.5	389.9
167.5°	397.3	397.0	396.7	396.4	396.1	395.9	396.0	396.0	396.0	396.0	396.5
170°	400.8	400.5	400.1	399.8	399.4	399.3	399.3	399.4	399.5	399.6	399.9
172.5°	403.3	403.1	402.7	402.4	402.2	402.0	402.0	402.1	402.1	402.1	402.5
175°	406.8	406.4	406.1	405.7	405.4	405.2	405.1	405.0	405.0	404.9	405.4
177.5°	408.0	407.7	407.3	407.1	406.8	406.7	406.7	406.7	406.7	406.7	407.1
180°	407.4	407.4	407.4	407.4	407.4	407.4	407.4	407.4	407.4	407.4	407.4



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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°	182.5	191.8	201.0	207.1	209.9	212.7	215.5	218.3
90°	167.1	176.6	186.3	192.4	195.1	197.8	200.5	203.1
92.5°	165.0	174.2	183.3	189.2	191.8	194.4	197.1	199.7
95°	165.3	174.1	182.8	188.6	191.5	194.3	197.2	200.0
97.5°	170.0	178.5	187.1	192.7	195.5	198.1	200.9	203.6
100°	173.8	182.4	191.2	196.6	198.9	201.1	203.2	205.5
102.5°	178.3	186.8	195.3	200.7	203.3	205.8	208.3	210.9
105°	185.2	193.3	201.4	206.9	209.6	212.4	215.1	217.8
107.5°	194.2	202.2	210.2	215.3	217.6	219.9	222.1	224.4
110°	200.4	207.5	214.6	219.5	222.3	225.1	227.8	230.5





TEST NUMBER: P332674-940

CATALOG NUMBER: SA4XXDIP-C1195D365U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	206.7	213.7	220.7	225.5	228.1	230.7	233.3	235.8
115°	217.5	224.4	231.2	235.8	237.9	240.0	242.2	244.3
117.5°	226.8	233.1	239.5	243.9	246.2	248.6	251.0	253.4
120°	233.2	239.2	245.1	249.5	252.2	254.9	257.5	260.2
122.5°	240.3	246.5	252.5	256.6	258.6	260.6	262.7	264.7
125°	251.4	257.3	263.1	267.0	268.7	270.5	272.2	274.0
127.5°	260.2	265.7	271.3	275.1	277.1	279.2	281.2	283.2
130°	267.1	272.6	278.2	281.8	283.4	285.0	286.6	288.3
132.5°	273.8	279.2	284.5	288.0	289.8	291.6	293.4	295.2
135°	282.6	287.6	292.5	295.8	297.5	299.2	300.9	302.6
137.5°	292.4	296.8	301.2	304.3	305.9	307.6	309.2	310.8
140°	299.3	303.3	307.4	310.1	311.7	313.2	314.7	316.2
142.5°	306.7	310.2	313.9	316.3	317.6	319.0	320.2	321.6
145°	318.8	320.6	322.4	323.9	324.9	326.0	327.0	328.1
147.5°	330.0	330.3	330.5	331.0	332.0	332.9	333.9	334.7
150°	338.8	338.8	338.8	338.7	338.7	338.6	338.5	338.4
152.5°	347.4	347.6	347.8	347.7	347.5	347.3	347.1	347.0
155°	359.4	359.7	360.0	360.0	359.7	359.4	359.2	358.9
157.5°	370.1	370.3	370.5	370.5	370.2	370.1	369.8	369.5
160°	376.7	376.8	377.1	377.0	376.7	376.3	375.9	375.6
162.5°	382.5	382.9	383.3	383.3	383.0	382.6	382.3	381.9
165°	390.3	390.7	391.1	391.2	390.9	390.7	390.4	390.1
167.5°	396.9	397.3	397.7	397.7	397.3	396.8	396.4	395.9
170°	400.4	400.8	401.3	401.2	400.7	400.2	399.8	399.2
172.5°	403.1	403.5	403.9	403.9	403.5	403.0	402.5	402.0
175°	405.9	406.4	406.9	406.9	406.4	405.9	405.4	404.9
177.5°	407.4	407.9	408.2	408.2	407.8	407.3	406.9	406.4
180°	407.4	407.4	407.4	407.4	407.4	407.4	407.4	407.4

(END OF REPORT)