

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: P332673-830

Luminaire Tested: **S124DIP-S1195D365U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332673-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D365U830-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5960.5 lumens  
Efficiency: N/A  
Efficacy: 119.7 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

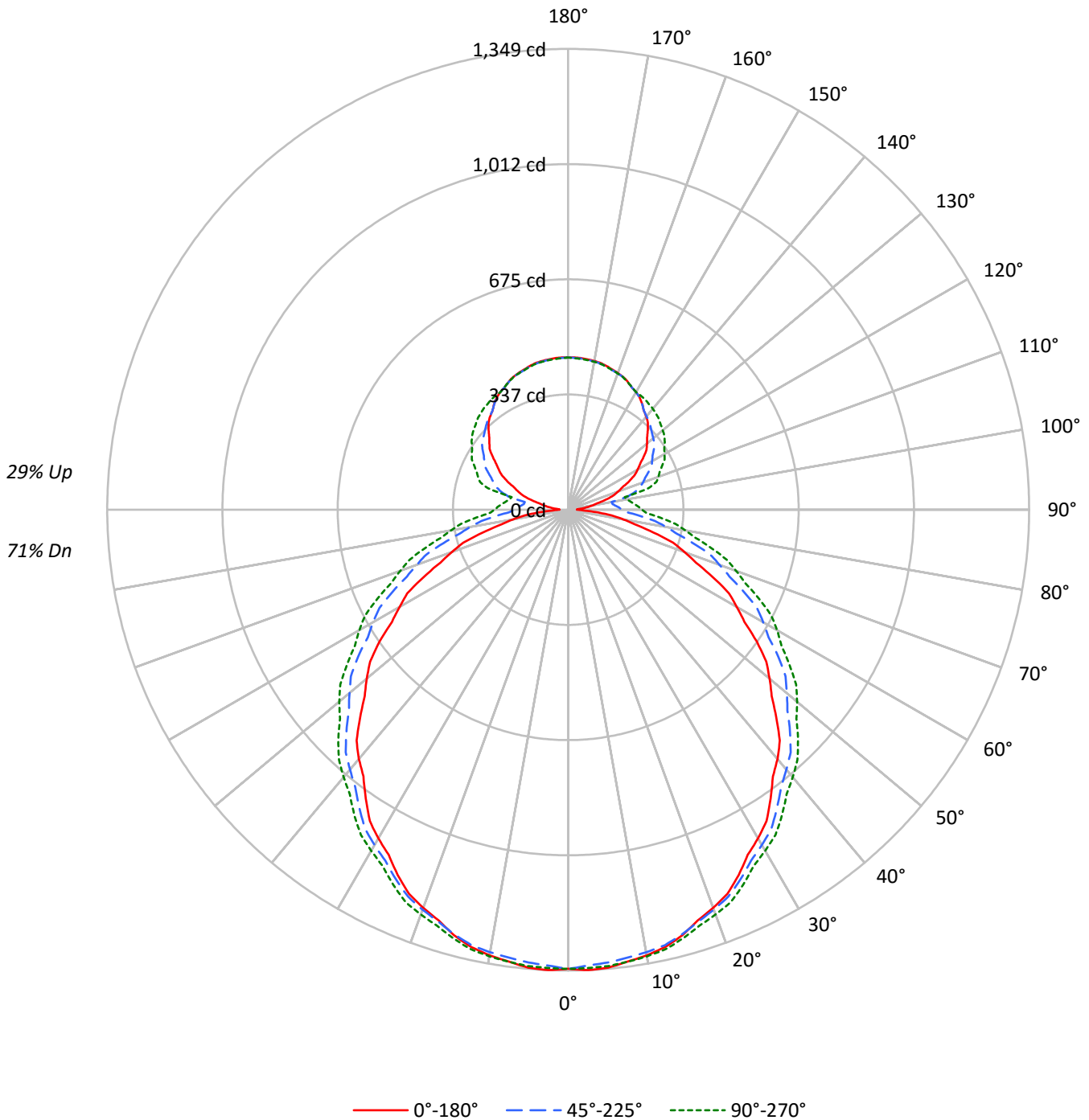
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	101	96	91	87	95	91	87	83	81	78	75	73	70	68	64	63	61	57
2	91	83	76	70	86	79	72	67	70	65	61	63	59	56	56	53	50	46
3	83	73	64	58	78	69	61	55	62	56	51	55	50	46	49	45	42	39
4	76	64	55	49	71	61	53	47	55	48	43	49	44	39	44	39	36	33
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	35	31	28
6	64	51	42	36	60	49	40	35	44	37	32	39	34	30	35	31	27	24
7	59	46	37	31	56	44	36	30	40	33	28	36	30	26	32	28	24	22
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	30	25	21	19
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	17
10	48	35	27	22	45	34	26	22	31	24	20	28	23	19	25	21	17	16

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

	0°	45°	90°
0°	10851	10851	10851
5°	10884	10604	10635
10°	10818	10431	10423
15°	10721	10231	10174
20°	10574	10009	9931
25°	10410	9760	9665
30°	10231	9513	9392
35°	10029	9259	9152
40°	9868	9019	8902
45°	9628	8797	8688
50°	9425	8541	8461
55°	9216	8300	8195
60°	8889	7992	7953
65°	8532	7663	7655
70°	8098	7286	7308
75°	7493	6872	6995
80°	6823	6474	6686
85°	5963	6123	6505



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.3	2.1
10°-20°	364.7	6.1
20°-30°	551.4	9.3
30°-40°	667.1	11.2
40°-50°	705.3	11.8
50°-60°	663.8	11.1
60°-70°	550.7	9.2
70°-80°	386.8	6.5
80°-90°	220.0	3.7
90°-100°	145.1	2.4
100°-110°	193.3	3.2
110°-120°	250.3	4.2
120°-130°	272.2	4.6
130°-140°	268.1	4.5
140°-150°	239.2	4.0
150°-160°	190.3	3.2
160°-170°	122.7	2.1
170°-180°	42.3	0.7
0°-30°	1043.3	17.5
0°-40°	1710.5	28.7
0°-60°	3079.5	51.7
0°-90°	4237.1	71.1
90°-120°	588.6	9.9
90°-150°	1368.1	23.0
90°-180°	1723.0	28.9
0°-180°	5960.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1346	1341	1330	1342	1341	128
15°	1290	1291	1287	1300	1299	363
25°	1180	1189	1194	1209	1212	543
35°	1032	1050	1066	1086	1091	646
45°	861	890	918	943	951	665
55°	674	707	751	780	790	601
65°	467	515	566	602	616	462
75°	259	315	378	418	434	275
85°	80	143	211	254	271	85
90°	25	89	156	200	215	17
95°	38	78	138	179	195	39
105°	114	147	203	242	244	120
115°	196	213	259	291	303	194
125°	269	271	306	334	345	241
135°	329	330	341	365	375	254
145°	378	377	377	387	393	236
155°	413	413	412	413	412	190
165°	435	434	434	436	433	123
175°	445	444	444	446	443	42
180°	445	445	445	445	445	



TEST NUMBER: P332673-830

CATALOG NUMBER: S124DIP-S1195D365U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1348.9	1348.0	1347.3	1346.4	1345.7	1344.2	1342.0	1339.9	1337.8	1335.6	1337.5
5°	1345.5	1344.5	1343.5	1342.6	1341.5	1339.8	1337.5	1335.1	1332.8	1330.5	1333.1
7.5°	1334.1	1333.5	1332.8	1332.3	1331.7	1330.4	1328.5	1326.5	1324.6	1322.7	1325.7
10°	1324.5	1324.1	1323.8	1323.4	1323.1	1322.1	1320.4	1318.8	1317.1	1315.4	1318.4
12.5°	1311.2	1311.2	1311.1	1311.0	1311.0	1310.3	1309.2	1308.1	1306.9	1305.8	1308.5
15°	1289.9	1290.2	1290.5	1290.8	1291.2	1290.8	1289.9	1288.8	1287.8	1286.9	1289.9
17.5°	1260.7	1261.7	1262.6	1263.7	1264.6	1265.1	1264.9	1264.6	1264.4	1264.2	1267.3
20°	1240.2	1241.1	1242.2	1243.2	1244.2	1244.8	1245.2	1245.6	1245.9	1246.2	1249.5
22.5°	1217.3	1218.5	1219.8	1221.1	1222.4	1223.3	1223.9	1224.6	1225.1	1225.7	1229.1
25°	1180.0	1181.9	1184.0	1186.0	1188.0	1189.5	1190.5	1191.5	1192.5	1193.5	1197.2
27.5°	1138.4	1141.4	1144.3	1147.3	1150.2	1152.4	1154.0	1155.6	1157.1	1158.6	1162.0
30°	1110.7	1113.4	1116.1	1118.8	1121.4	1124.0	1126.2	1128.6	1131.0	1133.3	1137.0
32.5°	1080.6	1083.8	1087.0	1090.2	1093.4	1096.4	1099.0	1101.6	1104.2	1106.8	1111.1
35°	1032.5	1036.5	1040.5	1044.5	1048.5	1052.2	1055.6	1058.9	1062.2	1065.5	1070.3
37.5°	984.0	988.6	993.3	997.9	1002.5	1006.8	1011.0	1015.1	1019.3	1023.4	1028.2
40°	952.7	957.1	961.4	965.7	970.1	974.6	979.3	984.0	988.6	993.3	998.3
42.5°	916.6	921.4	926.3	931.2	936.1	941.3	946.8	952.3	957.7	963.3	968.8
45°	860.9	867.2	873.6	880.0	886.3	892.7	899.0	905.4	911.7	918.1	923.8
47.5°	807.6	814.2	820.8	827.3	833.9	840.8	848.2	855.5	862.9	870.2	876.1
50°	769.1	776.5	783.8	791.2	798.5	805.9	813.2	820.6	827.9	835.3	842.0
52.5°	730.6	737.9	745.3	752.6	760.0	767.9	776.3	784.8	793.1	801.6	808.3
55°	674.3	681.3	688.3	695.3	702.4	710.9	721.0	730.9	741.0	751.0	757.7
57.5°	611.3	620.1	628.8	637.4	646.1	655.4	665.4	675.4	685.4	695.3	703.3
60°	570.4	579.1	587.8	596.5	605.2	615.1	626.1	637.2	648.2	659.2	666.9
62.5°	530.7	540.2	549.7	559.2	568.6	578.9	590.0	601.1	612.1	623.1	630.7
65°	466.6	477.3	488.0	498.7	509.3	520.4	531.8	543.2	554.5	565.9	574.3
67.5°	404.8	416.2	427.6	438.9	450.3	462.1	474.3	486.4	498.6	510.9	519.3
70°	362.7	374.1	385.5	396.8	408.2	420.3	432.9	445.6	458.4	471.1	480.1
72.5°	321.8	333.4	345.1	356.7	368.3	380.9	394.5	407.9	421.4	435.0	443.7
75°	258.9	271.3	283.6	296.0	308.4	321.6	335.6	349.7	363.7	377.8	387.1
77.5°	200.2	213.3	226.4	239.5	252.6	266.6	281.3	296.0	310.7	325.4	334.9
80°	164.1	177.4	190.8	204.2	217.5	231.6	246.3	261.1	275.8	290.5	300.5
82.5°	127.9	141.9	155.8	169.7	183.6	197.9	212.6	227.3	242.0	256.7	267.0
85°	79.7	93.8	107.8	121.9	135.9	150.5	165.5	180.6	195.7	210.8	220.7
87.5°	44.8	58.5	72.4	86.1	100.0	114.2	129.0	143.8	158.5	173.3	183.1
90°	25.1	39.3	53.4	67.7	81.8	96.4	111.4	126.4	141.4	156.4	166.5
92.5°	27.1	39.1	51.3	63.3	75.4	89.0	104.0	118.9	133.8	148.8	158.7
95°	37.9	46.4	55.0	63.4	72.0	83.1	96.9	110.7	124.5	138.3	147.7
97.5°	56.6	67.8	78.8	89.8	100.9	109.1	114.4	119.8	125.1	130.4	139.2
100°	71.2	81.2	91.2	101.2	111.3	117.7	120.6	123.4	126.2	129.0	136.9
102.5°	88.8	97.4	105.9	114.6	123.2	133.2	144.7	156.1	167.6	179.0	174.2
105°	113.8	120.9	128.1	135.3	142.3	152.3	165.0	177.8	190.5	203.3	212.3
107.5°	139.6	145.2	151.0	156.7	162.4	171.4	183.5	195.8	208.0	220.2	228.8
110°	155.9	160.9	165.8	170.7	175.6	184.1	196.2	208.4	220.6	232.7	240.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	171.8	176.3	180.9	185.4	190.0	197.9	209.3	220.7	232.1	243.5	250.8
115°	196.2	199.4	202.7	205.9	209.2	216.1	226.7	237.3	248.0	258.6	266.1
117.5°	219.6	221.7	223.8	225.9	228.0	234.1	244.2	254.4	264.5	274.7	281.5
120°	234.4	235.6	237.0	238.3	239.6	245.1	254.7	264.3	273.9	283.5	290.4
122.5°	249.3	249.7	250.1	250.4	250.8	255.6	264.9	274.2	283.4	292.7	299.4
125°	269.2	269.1	269.1	269.1	269.0	273.1	281.3	289.5	297.7	305.9	312.5
127.5°	289.2	288.9	288.6	288.3	288.0	291.3	298.1	304.8	311.6	318.4	324.3
130°	301.0	300.8	300.5	300.2	299.9	302.6	308.2	313.8	319.3	324.9	331.0
132.5°	313.0	312.7	312.5	312.4	312.2	314.3	319.0	323.5	328.0	332.6	338.5
135°	329.4	329.4	329.3	329.2	329.1	330.5	333.1	335.7	338.4	341.0	346.5
137.5°	345.3	345.1	344.8	344.5	344.1	344.8	346.2	347.7	349.1	350.6	355.6
140°	355.8	355.6	355.4	355.2	355.1	355.2	355.6	356.1	356.7	357.1	361.7
142.5°	363.9	364.1	364.3	364.5	364.7	364.8	364.7	364.5	364.4	364.3	368.3
145°	378.0	377.8	377.7	377.6	377.5	377.4	377.4	377.4	377.4	377.4	379.5
147.5°	389.3	389.4	389.5	389.6	389.6	389.6	389.6	389.5	389.4	389.4	389.6
150°	397.6	397.6	397.5	397.5	397.4	397.4	397.3	397.2	397.1	397.1	397.1
152.5°	403.3	403.5	403.6	403.8	404.0	404.0	403.9	403.7	403.6	403.5	403.6
155°	412.7	412.8	412.8	412.9	413.0	412.9	412.7	412.5	412.3	412.1	412.4
157.5°	420.9	420.8	420.8	420.8	420.8	420.6	420.4	420.1	419.8	419.6	420.0
160°	425.7	425.5	425.3	425.1	424.8	424.7	424.6	424.5	424.4	424.3	424.8
162.5°	430.0	429.7	429.4	429.1	428.9	428.7	428.6	428.5	428.5	428.4	428.9
165°	435.4	435.0	434.6	434.2	433.9	433.7	433.7	433.7	433.7	433.7	434.3
167.5°	439.6	439.2	438.8	438.5	438.1	437.9	437.8	437.8	437.7	437.7	438.4
170°	442.1	441.6	441.1	440.7	440.3	440.1	440.2	440.3	440.3	440.4	440.9
172.5°	443.7	443.2	442.7	442.3	441.9	441.7	441.8	441.9	441.9	442.0	442.5
175°	445.4	444.9	444.5	444.0	443.6	443.4	443.5	443.6	443.7	443.7	444.4
177.5°	446.2	445.7	445.4	444.9	444.5	444.3	444.5	444.6	444.7	444.8	445.4
180°	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1339.4	1341.2	1343.1	1343.9	1343.6	1343.3	1343.1	1342.8
5°	1335.9	1338.5	1341.1	1342.4	1342.0	1341.7	1341.3	1341.0
7.5°	1328.7	1331.7	1334.7	1336.1	1335.7	1335.4	1335.0	1334.7
10°	1321.4	1324.5	1327.5	1328.8	1328.5	1328.1	1327.8	1327.5
12.5°	1311.3	1314.0	1316.7	1318.1	1318.1	1318.0	1317.9	1317.9
15°	1292.9	1295.9	1298.8	1300.2	1299.9	1299.6	1299.2	1298.8
17.5°	1270.5	1273.5	1276.6	1278.0	1277.7	1277.4	1277.1	1276.9
20°	1252.9	1256.2	1259.6	1261.2	1261.2	1261.2	1261.2	1261.2
22.5°	1232.4	1235.8	1239.1	1241.0	1241.6	1242.1	1242.6	1243.2
25°	1200.9	1204.6	1208.2	1210.2	1210.6	1210.9	1211.3	1211.5
27.5°	1165.5	1168.8	1172.2	1174.1	1174.6	1175.0	1175.4	1175.7
30°	1140.7	1144.3	1148.0	1150.2	1150.8	1151.5	1152.2	1152.9
32.5°	1115.2	1119.5	1123.7	1126.1	1126.8	1127.5	1128.1	1128.8
35°	1075.0	1079.6	1084.3	1087.1	1088.2	1089.2	1090.1	1091.2
37.5°	1032.9	1037.6	1042.5	1045.4	1046.4	1047.4	1048.6	1049.6
40°	1003.3	1008.4	1013.4	1016.6	1017.9	1019.3	1020.6	1021.9
42.5°	974.3	979.9	985.4	988.7	989.9	990.9	991.9	993.1
45°	929.4	935.2	940.8	944.5	946.2	947.8	949.5	951.2
47.5°	882.0	887.9	893.8	897.7	899.8	901.7	903.7	905.8
50°	848.7	855.4	862.0	866.4	868.5	870.4	872.4	874.4
52.5°	815.0	821.7	828.3	832.7	834.7	836.7	838.7	840.7
55°	764.4	771.1	777.8	782.1	784.1	786.2	788.2	790.1
57.5°	711.2	719.3	727.2	732.1	734.0	735.8	737.7	739.6
60°	674.6	682.3	689.9	695.1	697.9	700.5	703.2	705.9
62.5°	638.5	646.2	653.8	659.0	661.8	664.4	667.0	669.8
65°	582.6	591.0	599.4	604.8	607.6	610.2	612.9	615.6
67.5°	527.8	536.3	544.8	550.4	553.0	555.5	558.2	560.8
70°	489.2	498.1	507.2	512.9	515.2	517.6	519.9	522.3
72.5°	452.5	461.3	470.0	475.7	478.3	480.9	483.5	486.2
75°	396.5	405.9	415.2	421.4	424.4	427.4	430.5	433.5
77.5°	344.4	353.9	363.4	369.8	373.0	376.2	379.4	382.6
80°	310.6	320.6	330.6	337.0	339.6	342.3	345.0	347.7
82.5°	277.4	287.7	297.9	304.6	307.6	310.5	313.4	316.3
85°	230.7	240.8	250.8	257.5	260.9	264.2	267.6	270.9
87.5°	192.9	202.7	212.5	218.9	221.9	224.8	227.8	230.7
90°	176.6	186.7	196.9	203.4	206.2	209.1	211.9	214.7
92.5°	168.6	178.4	188.3	194.6	197.4	200.0	202.7	205.5
95°	157.2	166.7	176.2	182.5	185.5	188.6	191.7	194.8
97.5°	148.0	156.8	165.6	171.5	174.5	177.4	180.4	183.3
100°	144.6	152.3	160.1	165.2	167.7	170.0	172.5	174.8
102.5°	169.4	164.6	159.8	158.6	161.3	163.9	166.5	169.1
105°	221.3	230.4	239.4	243.9	243.9	243.9	243.9	243.9
107.5°	237.3	245.8	254.4	260.0	262.7	265.4	268.1	270.8
110°	248.4	256.2	264.0	269.4	272.3	275.2	278.1	281.0





TEST NUMBER: P332673-830

CATALOG NUMBER: S124DIP-S1195D365U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	258.3	265.6	273.1	278.2	281.2	284.1	287.1	290.0
115°	273.6	281.2	288.6	293.6	295.9	298.2	300.6	302.9
117.5°	288.5	295.4	302.4	307.1	309.8	312.5	315.1	317.7
120°	297.2	304.1	310.9	315.6	318.1	320.7	323.1	325.6
122.5°	306.2	313.0	319.8	324.3	326.6	328.9	331.1	333.4
125°	319.1	325.6	332.2	336.6	338.7	340.7	342.8	344.9
127.5°	330.4	336.3	342.3	346.4	348.6	350.8	353.0	355.2
130°	337.1	343.2	349.3	353.4	355.3	357.3	359.3	361.4
132.5°	344.2	350.1	355.9	359.8	361.7	363.7	365.6	367.6
135°	351.9	357.5	363.0	366.8	369.0	371.1	373.2	375.4
137.5°	360.7	365.7	370.8	374.1	375.7	377.4	379.0	380.6
140°	366.3	370.8	375.4	378.5	380.3	382.0	383.8	385.5
142.5°	372.2	376.2	380.2	382.9	384.3	385.7	387.1	388.6
145°	381.5	383.6	385.7	387.5	389.0	390.5	392.0	393.4
147.5°	390.0	390.3	390.7	391.3	392.6	393.7	394.8	396.0
150°	397.1	397.1	397.1	397.1	397.2	397.3	397.3	397.4
152.5°	403.7	403.8	404.0	404.0	403.9	403.9	403.9	403.8
155°	412.6	412.9	413.2	413.3	413.0	412.8	412.6	412.4
157.5°	420.4	420.8	421.1	421.1	420.8	420.4	420.0	419.6
160°	425.3	425.7	426.1	426.1	425.7	425.3	424.8	424.3
162.5°	429.2	429.7	430.2	430.1	429.6	429.1	428.6	428.1
165°	434.9	435.5	436.1	436.0	435.4	434.7	434.0	433.4
167.5°	439.0	439.7	440.3	440.3	439.5	438.8	438.0	437.3
170°	441.6	442.1	442.7	442.6	442.0	441.2	440.5	439.7
172.5°	443.2	443.7	444.3	444.2	443.5	442.6	441.9	441.0
175°	445.1	445.7	446.4	446.3	445.4	444.5	443.6	442.7
177.5°	445.8	446.3	446.8	446.6	445.9	445.2	444.5	443.7
180°	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4

(END OF REPORT)