

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: P332674-840

Luminaire Tested: **S124DIP-S1195D365U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332674-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D365U840-4F0-1E-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**

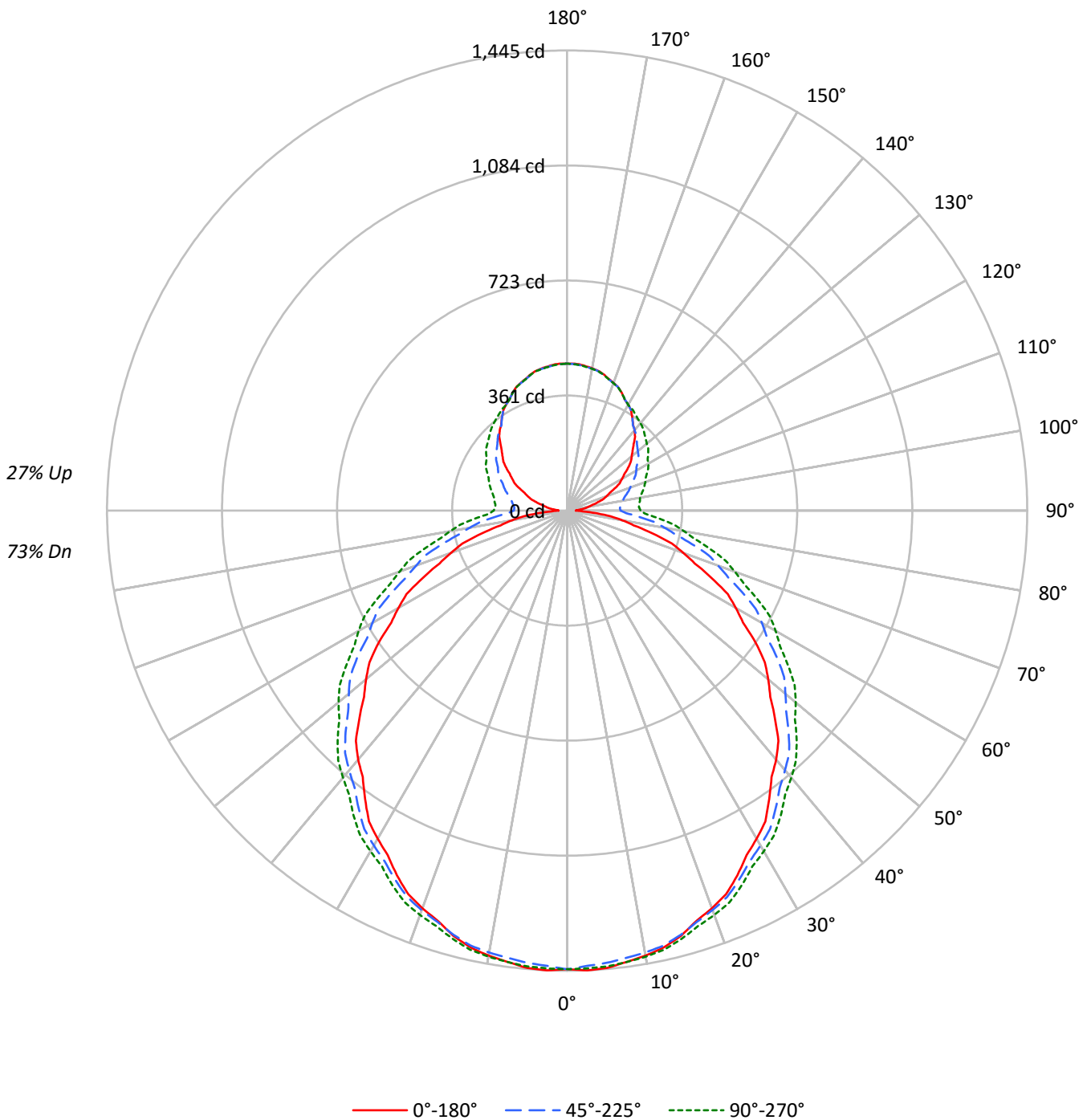
Lumens per Lamp: N/A  
Luminaire Lumens: 6190.3 lumens  
Efficiency: N/A  
Efficacy: 124.3 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct  
  
Input Watts (W): 49.8  
Input Voltage (V): 120  
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	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°	11626	11626	11626
5°	11661	11362	11394
10°	11590	11176	11167
15°	11486	10961	10900
20°	11330	10723	10641
25°	11153	10457	10356
30°	10961	10193	10063
35°	10745	9921	9805
40°	10573	9663	9538
45°	10316	9426	9309
50°	10098	9151	9066
55°	9875	8894	8781
60°	9525	8563	8521
65°	9141	8210	8201
70°	8676	7806	7830
75°	8028	7363	7494
80°	7309	6935	7163
85°	6389	6559	6968



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.4	2.2
10°-20°	390.7	6.3
20°-30°	590.8	9.5
30°-40°	714.8	11.5
40°-50°	755.7	12.2
50°-60°	711.2	11.5
60°-70°	590.1	9.5
70°-80°	414.5	6.7
80°-90°	235.7	3.8
90°-100°	169.6	2.7
100°-110°	193.1	3.1
110°-120°	222.1	3.6
120°-130°	240.8	3.9
130°-140°	243.4	3.9
140°-150°	226.1	3.7
150°-160°	187.3	3.0
160°-170°	124.6	2.0
170°-180°	43.6	0.7
0°-30°	1117.8	18.1
0°-40°	1832.6	29.6
0°-60°	3299.5	53.3
0°-90°	4539.7	73.3
90°-120°	584.8	9.4
90°-150°	1295.1	20.9
90°-180°	1651.0	26.7
0°-180°	6190.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1440	1440	1440	1440	1440	
5°	1442	1436	1426	1438	1437	137
15°	1382	1383	1379	1392	1392	389
25°	1264	1274	1279	1296	1298	582
35°	1106	1125	1142	1163	1169	692
45°	922	953	984	1010	1019	713
55°	722	757	805	836	847	643
65°	500	552	606	645	660	495
75°	277	338	405	448	464	295
85°	85	153	226	272	290	91
90°	27	96	168	214	230	18
95°	42	99	167	210	226	40
105°	98	132	191	231	247	105
115°	165	182	231	264	277	164
125°	233	234	271	300	310	208
135°	296	298	309	333	343	229
145°	357	357	357	366	372	223
155°	407	407	406	408	406	187
165°	443	442	441	443	442	125
175°	461	459	459	461	459	44
180°	461	461	461	461	461	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1445.2	1444.3	1443.5	1442.6	1441.8	1440.2	1437.8	1435.6	1433.3	1431.0	1433.0
5°	1441.6	1440.6	1439.5	1438.5	1437.3	1435.5	1433.0	1430.5	1428.1	1425.5	1428.4
7.5°	1429.4	1428.8	1428.1	1427.4	1426.8	1425.4	1423.4	1421.3	1419.2	1417.1	1420.4
10°	1419.1	1418.7	1418.4	1418.0	1417.6	1416.5	1414.7	1413.0	1411.2	1409.4	1412.6
12.5°	1404.8	1404.8	1404.7	1404.6	1404.6	1403.9	1402.7	1401.5	1400.3	1399.1	1402.0
15°	1382.0	1382.3	1382.7	1383.0	1383.4	1383.0	1382.0	1380.9	1379.8	1378.8	1382.0
17.5°	1350.7	1351.8	1352.8	1353.9	1354.9	1355.4	1355.2	1354.9	1354.7	1354.5	1357.9
20°	1328.8	1329.8	1330.9	1332.0	1333.0	1333.7	1334.1	1334.5	1334.8	1335.2	1338.8
22.5°	1304.2	1305.6	1307.0	1308.3	1309.7	1310.7	1311.3	1312.0	1312.6	1313.2	1316.9
25°	1264.3	1266.4	1268.6	1270.7	1272.8	1274.4	1275.6	1276.6	1277.7	1278.8	1282.7
27.5°	1219.7	1222.9	1226.1	1229.2	1232.3	1234.8	1236.4	1238.1	1239.7	1241.3	1245.0
30°	1190.0	1193.0	1195.8	1198.7	1201.5	1204.3	1206.7	1209.2	1211.7	1214.3	1218.2
32.5°	1157.8	1161.2	1164.7	1168.1	1171.5	1174.7	1177.5	1180.3	1183.1	1185.9	1190.4
35°	1106.2	1110.5	1114.8	1119.1	1123.4	1127.3	1130.9	1134.5	1138.1	1141.7	1146.7
37.5°	1054.3	1059.2	1064.2	1069.1	1074.1	1078.7	1083.2	1087.6	1092.1	1096.5	1101.7
40°	1020.8	1025.4	1030.1	1034.7	1039.4	1044.2	1049.2	1054.3	1059.2	1064.3	1069.6
42.5°	982.1	987.2	992.5	997.7	1003.0	1008.6	1014.4	1020.3	1026.1	1032.1	1038.0
45°	922.4	929.2	936.0	942.8	949.6	956.4	963.2	970.1	976.8	983.7	989.8
47.5°	865.3	872.3	879.4	886.4	893.4	900.9	908.8	916.7	924.5	932.4	938.7
50°	824.0	831.9	839.8	847.7	855.6	863.4	871.3	879.2	887.1	894.9	902.1
52.5°	782.7	790.6	798.5	806.4	814.3	822.7	831.7	840.8	849.8	858.9	866.1
55°	722.5	729.9	737.5	745.0	752.6	761.6	772.4	783.2	794.0	804.7	811.8
57.5°	655.0	664.4	673.7	683.0	692.3	702.3	713.0	723.7	734.4	745.0	753.6
60°	611.2	620.5	629.8	639.1	648.4	659.0	670.9	682.7	694.5	706.3	714.6
62.5°	568.6	578.8	589.0	599.2	609.3	620.3	632.2	644.0	655.8	667.6	675.8
65°	499.9	511.4	522.8	534.3	545.7	557.5	569.8	582.0	594.1	606.3	615.3
67.5°	433.7	446.0	458.2	470.3	482.5	495.1	508.2	521.2	534.2	547.3	556.4
70°	388.6	400.8	413.0	425.2	437.4	450.3	463.8	477.5	491.1	504.7	514.4
72.5°	344.8	357.2	369.7	382.1	394.7	408.1	422.6	437.1	451.5	466.1	475.4
75°	277.4	290.6	303.9	317.1	330.4	344.6	359.6	374.7	389.7	404.8	414.8
77.5°	214.5	228.5	242.6	256.6	270.6	285.6	301.3	317.1	332.9	348.6	358.8
80°	175.8	190.1	204.4	218.7	233.1	248.1	263.9	279.7	295.5	311.2	321.9
82.5°	137.0	152.0	166.9	181.8	196.7	212.1	227.8	243.6	259.3	275.1	286.1
85°	85.4	100.5	115.5	130.6	145.6	161.3	177.3	193.5	209.6	225.8	236.5
87.5°	48.0	62.7	77.6	92.3	107.1	122.4	138.3	154.1	169.9	185.7	196.2
90°	26.9	42.1	57.3	72.5	87.7	103.3	119.4	135.4	151.5	167.5	178.3
92.5°	32.1	46.0	60.0	73.8	87.8	102.6	118.5	134.3	150.2	166.0	176.4
95°	42.4	54.9	67.5	80.0	92.5	106.4	121.7	136.9	152.2	167.4	177.3
97.5°	56.5	67.2	78.0	88.7	99.4	112.4	127.5	142.8	157.9	173.2	182.9
100°	67.7	77.4	86.9	96.6	106.2	118.4	133.1	147.7	162.5	177.1	187.0
102.5°	80.8	89.2	97.5	105.7	114.0	125.3	139.7	154.0	168.3	182.7	192.3
105°	97.7	104.9	112.2	119.4	126.6	137.0	150.7	164.2	177.7	191.4	200.6
107.5°	118.4	124.3	130.4	136.3	142.3	151.6	164.1	176.7	189.3	201.9	211.0
110°	131.4	136.5	141.7	146.9	152.1	160.9	173.4	185.8	198.2	210.8	218.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	144.9	149.4	153.9	158.3	162.8	171.0	182.8	194.6	206.4	218.3	226.2
115°	165.2	168.4	171.7	174.9	178.1	185.4	196.7	208.0	219.3	230.7	238.4
117.5°	185.9	187.9	190.0	191.9	193.9	200.2	210.8	221.4	231.9	242.5	249.6
120°	198.6	200.1	201.4	202.8	204.2	210.0	220.2	230.2	240.4	250.5	257.3
122.5°	213.2	213.5	213.9	214.2	214.6	219.5	229.2	239.0	248.7	258.4	265.3
125°	233.1	232.7	232.4	232.0	231.7	235.9	244.8	253.7	262.6	271.4	278.0
127.5°	252.2	252.1	252.0	251.9	251.8	255.1	261.8	268.5	275.3	282.1	288.3
130°	264.6	264.5	264.4	264.3	264.2	266.9	272.7	278.4	284.2	289.9	296.2
132.5°	278.6	278.4	278.2	278.0	277.9	280.0	284.6	289.1	293.7	298.1	304.2
135°	295.5	296.0	296.4	296.9	297.4	298.9	301.3	303.9	306.4	308.9	314.5
137.5°	315.6	315.5	315.4	315.2	315.1	315.7	317.0	318.4	319.7	321.0	326.1
140°	329.0	328.8	328.6	328.4	328.2	328.3	328.7	329.0	329.4	329.7	334.4
142.5°	340.0	340.1	340.2	340.3	340.3	340.2	340.0	339.7	339.4	339.1	343.3
145°	356.7	356.7	356.6	356.6	356.5	356.6	356.6	356.7	356.8	356.9	358.9
147.5°	373.5	373.5	373.5	373.5	373.7	373.5	373.5	373.4	373.4	373.3	373.5
150°	383.8	383.7	383.7	383.6	383.6	383.6	383.6	383.6	383.6	383.6	383.6
152.5°	392.2	392.3	392.4	392.5	392.7	392.7	392.8	392.9	392.9	393.0	393.2
155°	406.8	406.8	406.8	406.8	406.8	406.8	406.7	406.6	406.6	406.5	406.8
157.5°	419.4	419.2	419.1	419.0	418.8	418.7	418.7	418.7	418.7	418.7	418.9
160°	426.8	426.7	426.7	426.6	426.5	426.4	426.4	426.3	426.2	426.1	426.4
162.5°	433.6	433.4	433.2	433.0	432.8	432.7	432.6	432.5	432.4	432.3	432.8
165°	442.8	442.6	442.4	442.1	441.9	441.7	441.5	441.4	441.2	441.1	441.5
167.5°	449.9	449.6	449.3	448.9	448.6	448.4	448.5	448.5	448.5	448.5	449.0
170°	453.9	453.5	453.1	452.7	452.3	452.2	452.2	452.3	452.4	452.5	452.9
172.5°	456.8	456.5	456.1	455.8	455.4	455.2	455.2	455.3	455.3	455.3	455.9
175°	460.7	460.3	459.9	459.5	459.1	458.9	458.8	458.7	458.7	458.6	459.1
177.5°	462.0	461.7	461.3	461.0	460.7	460.6	460.6	460.6	460.6	460.6	461.0
180°	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1435.0	1437.0	1439.1	1439.9	1439.6	1439.3	1439.1	1438.8
5°	1431.3	1434.1	1436.9	1438.2	1437.8	1437.5	1437.1	1436.8
7.5°	1423.6	1426.8	1430.1	1431.5	1431.1	1430.8	1430.4	1430.1
10°	1415.8	1419.1	1422.3	1423.7	1423.4	1423.0	1422.6	1422.3
12.5°	1404.9	1407.9	1410.8	1412.3	1412.2	1412.1	1412.0	1412.0
15°	1385.2	1388.5	1391.6	1393.1	1392.7	1392.4	1392.0	1391.6
17.5°	1361.2	1364.4	1367.8	1369.3	1369.0	1368.7	1368.4	1368.1
20°	1342.4	1345.9	1349.6	1351.3	1351.3	1351.3	1351.3	1351.3
22.5°	1320.4	1324.0	1327.6	1329.7	1330.3	1330.8	1331.4	1332.0
25°	1286.7	1290.6	1294.5	1296.7	1297.1	1297.4	1297.8	1298.1
27.5°	1248.7	1252.3	1256.0	1258.0	1258.5	1258.9	1259.3	1259.7
30°	1222.1	1226.1	1230.0	1232.3	1233.0	1233.8	1234.5	1235.3
32.5°	1194.9	1199.4	1204.0	1206.6	1207.3	1208.0	1208.7	1209.4
35°	1151.8	1156.7	1161.7	1164.8	1165.9	1167.0	1168.0	1169.1
37.5°	1106.7	1111.8	1116.9	1120.0	1121.2	1122.3	1123.5	1124.6
40°	1075.0	1080.5	1085.8	1089.2	1090.7	1092.1	1093.5	1094.9
42.5°	1043.9	1049.9	1055.8	1059.3	1060.6	1061.7	1062.8	1064.0
45°	995.8	1002.0	1008.0	1012.0	1013.8	1015.5	1017.3	1019.2
47.5°	945.0	951.3	957.7	961.8	964.0	966.1	968.3	970.5
50°	909.3	916.5	923.6	928.3	930.5	932.6	934.7	936.9
52.5°	873.2	880.4	887.5	892.2	894.3	896.5	898.6	900.8
55°	819.0	826.2	833.3	838.0	840.1	842.3	844.4	846.6
57.5°	762.0	770.6	779.1	784.4	786.4	788.4	790.4	792.4
60°	722.8	731.0	739.2	744.8	747.7	750.5	753.5	756.3
62.5°	684.1	692.4	700.5	706.1	709.0	711.9	714.7	717.6
65°	624.2	633.2	642.2	648.0	651.0	653.8	656.7	659.5
67.5°	565.5	574.6	583.7	589.7	592.5	595.2	598.0	600.9
70°	524.1	533.7	543.4	549.6	552.0	554.5	557.0	559.6
72.5°	484.8	494.2	503.6	509.7	512.5	515.2	518.1	520.9
75°	424.9	434.8	444.8	451.5	454.7	458.0	461.2	464.4
77.5°	369.0	379.2	389.3	396.2	399.6	403.0	406.5	409.9
80°	332.8	343.5	354.3	361.0	363.9	366.8	369.6	372.5
82.5°	297.2	308.2	319.2	326.4	329.5	332.6	335.8	338.9
85°	247.2	258.0	268.7	275.9	279.5	283.1	286.7	290.2
87.5°	206.7	217.2	227.6	234.5	237.7	240.9	244.1	247.2
90°	189.2	200.1	211.0	217.9	221.0	224.0	227.0	230.0
92.5°	186.8	197.2	207.6	214.3	217.2	220.2	223.2	226.1
95°	187.2	197.1	207.0	213.6	216.8	220.0	223.3	226.5
97.5°	192.6	202.2	211.9	218.2	221.4	224.4	227.5	230.6
100°	196.8	206.6	216.5	222.7	225.2	227.7	230.1	232.7
102.5°	201.9	211.6	221.2	227.3	230.2	233.1	235.9	238.8
105°	209.7	218.9	228.1	234.3	237.4	240.5	243.6	246.7
107.5°	219.9	229.0	238.0	243.9	246.4	249.0	251.6	254.1
110°	226.9	235.0	243.1	248.6	251.8	254.9	258.0	261.1





TEST NUMBER: P332674-840

CATALOG NUMBER: S124DIP-S1195D365U840-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	234.1	242.1	249.9	255.4	258.3	261.3	264.2	267.0
115°	246.3	254.1	261.9	267.0	269.4	271.9	274.3	276.7
117.5°	256.8	264.0	271.2	276.2	278.8	281.6	284.3	287.0
120°	264.1	270.8	277.6	282.6	285.6	288.6	291.6	294.7
122.5°	272.2	279.1	286.0	290.6	292.9	295.2	297.5	299.7
125°	284.7	291.3	298.0	302.4	304.3	306.3	308.3	310.3
127.5°	294.7	300.9	307.2	311.5	313.9	316.2	318.4	320.7
130°	302.5	308.7	315.1	319.1	320.9	322.8	324.6	326.5
132.5°	310.1	316.2	322.1	326.2	328.2	330.2	332.2	334.3
135°	320.0	325.7	331.2	335.0	336.9	338.8	340.7	342.6
137.5°	331.1	336.1	341.1	344.6	346.4	348.3	350.1	351.9
140°	338.9	343.5	348.1	351.2	352.9	354.7	356.4	358.1
142.5°	347.3	351.3	355.5	358.2	359.7	361.2	362.6	364.2
145°	361.0	363.0	365.2	366.8	368.0	369.2	370.3	371.5
147.5°	373.8	374.1	374.3	374.9	376.0	377.0	378.1	379.1
150°	383.6	383.6	383.6	383.5	383.5	383.4	383.3	383.2
152.5°	393.4	393.6	393.8	393.7	393.5	393.3	393.1	392.9
155°	407.1	407.4	407.7	407.7	407.4	407.1	406.8	406.5
157.5°	419.1	419.4	419.6	419.6	419.3	419.1	418.8	418.5
160°	426.6	426.8	427.1	427.0	426.6	426.2	425.8	425.4
162.5°	433.2	433.6	434.0	434.0	433.7	433.3	432.9	432.5
165°	442.0	442.5	442.9	443.0	442.7	442.4	442.1	441.8
167.5°	449.5	449.9	450.4	450.4	449.9	449.4	448.9	448.4
170°	453.4	453.9	454.4	454.3	453.8	453.2	452.7	452.1
172.5°	456.5	457.0	457.5	457.5	457.0	456.4	455.9	455.2
175°	459.7	460.2	460.8	460.8	460.2	459.7	459.1	458.6
177.5°	461.4	461.9	462.3	462.3	461.8	461.3	460.8	460.3
180°	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4

(END OF REPORT)