

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: P332673-840

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332673-840  
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-S1195D365U840-4F0-1E-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: 6386.3 lumens  
Efficiency: N/A  
Efficacy: 128.2 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

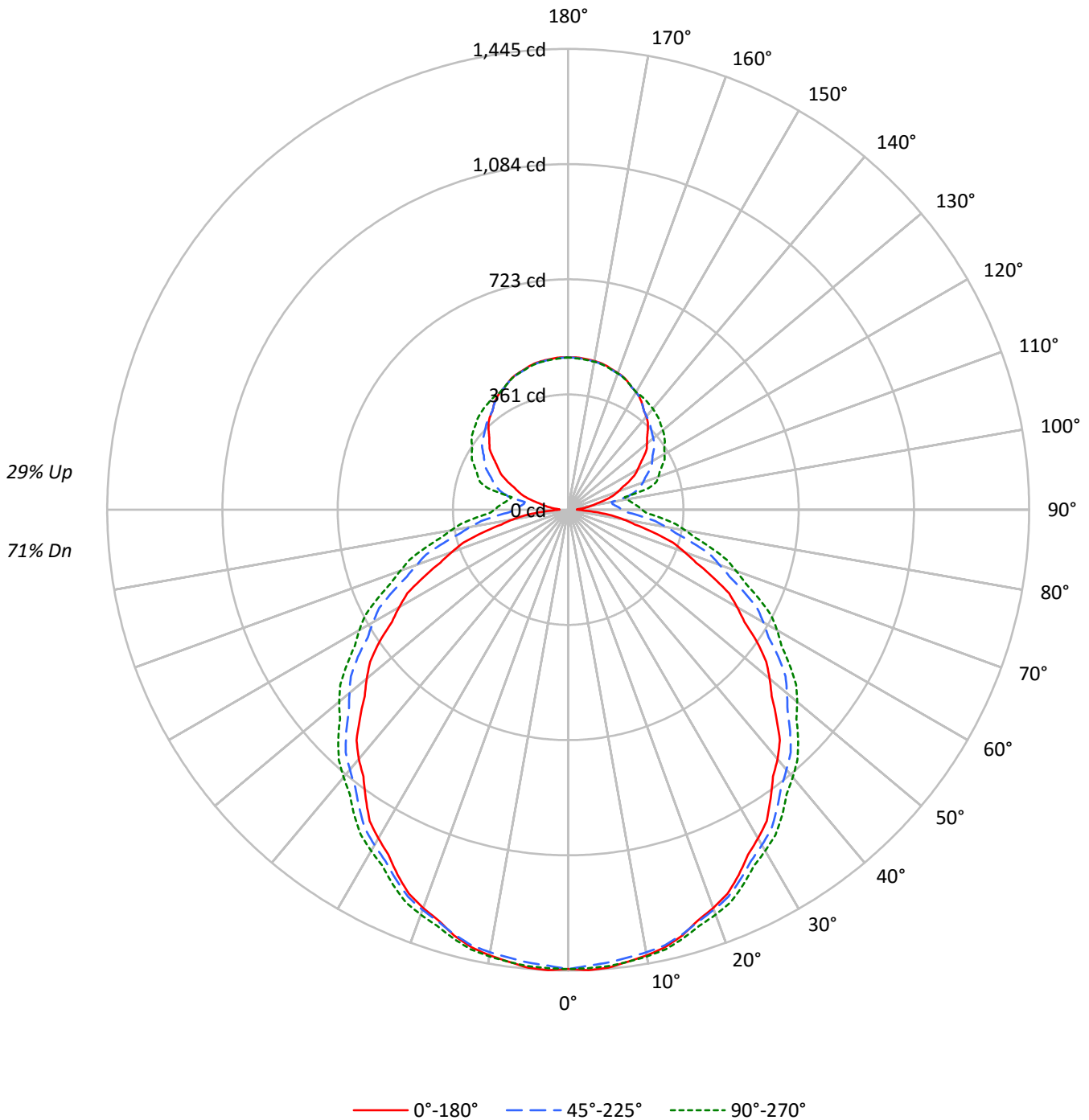
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	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	2.1
10°-20°	390.7	6.1
20°-30°	590.8	9.3
30°-40°	714.8	11.2
40°-50°	755.7	11.8
50°-60°	711.2	11.1
60°-70°	590.1	9.2
70°-80°	414.5	6.5
80°-90°	235.7	3.7
90°-100°	155.5	2.4
100°-110°	207.1	3.2
110°-120°	268.2	4.2
120°-130°	291.7	4.6
130°-140°	287.2	4.5
140°-150°	256.2	4.0
150°-160°	203.9	3.2
160°-170°	131.5	2.1
170°-180°	45.3	0.7
0°-30°	1117.8	17.5
0°-40°	1832.6	28.7
0°-60°	3299.5	51.7
0°-90°	4539.7	71.1
90°-120°	630.7	9.9
90°-150°	1465.8	23.0
90°-180°	1847.0	28.9
0°-180°	6386.3	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°	41	83	148	192	209	42
105°	122	158	218	259	261	129
115°	210	228	277	312	325	208
125°	288	290	328	358	370	258
135°	353	353	365	391	402	272
145°	405	404	404	414	422	253
155°	442	442	442	443	442	204
165°	466	465	465	467	464	132
175°	477	475	475	478	474	45
180°	477	477	477	477	477	



TEST NUMBER: P332673-840

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

**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°	29.0	41.9	54.9	67.9	80.8	95.3	111.4	127.3	143.4	159.5	170.1
95°	40.6	49.7	58.9	68.0	77.2	89.1	103.8	118.6	133.4	148.1	158.2
97.5°	60.7	72.6	84.4	96.2	108.2	116.9	122.6	128.4	134.0	139.8	149.2
100°	76.2	87.1	97.8	108.5	119.3	126.1	129.2	132.2	135.2	138.3	146.6
102.5°	95.1	104.3	113.5	122.8	132.0	142.7	155.0	167.2	179.6	191.8	186.6
105°	121.9	129.6	137.2	144.9	152.5	163.2	176.8	190.5	204.1	217.8	227.4
107.5°	149.6	155.6	161.8	167.8	174.0	183.6	196.6	209.7	222.9	235.9	245.1
110°	167.0	172.4	177.6	182.9	188.1	197.2	210.3	223.3	236.3	249.3	257.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	184.1	188.9	193.8	198.6	203.6	212.1	224.3	236.5	248.6	260.8	268.7
115°	210.3	213.7	217.2	220.7	224.1	231.6	242.9	254.3	265.7	277.1	285.1
117.5°	235.3	237.5	239.7	242.1	244.3	250.9	261.7	272.6	283.4	294.3	301.6
120°	251.2	252.5	253.9	255.3	256.7	262.6	272.9	283.2	293.5	303.8	311.1
122.5°	267.1	267.5	267.9	268.3	268.7	273.9	283.8	293.8	303.7	313.6	320.8
125°	288.4	288.3	288.3	288.3	288.2	292.7	301.4	310.2	319.0	327.8	334.9
127.5°	309.8	309.5	309.2	308.9	308.6	312.1	319.4	326.6	333.9	341.1	347.5
130°	322.4	322.2	321.9	321.6	321.3	324.2	330.2	336.2	342.1	348.1	354.7
132.5°	335.4	335.1	334.9	334.7	334.5	336.8	341.7	346.6	351.4	356.4	362.6
135°	352.9	352.9	352.8	352.7	352.6	354.1	356.9	359.7	362.5	365.4	371.2
137.5°	370.0	369.7	369.4	369.1	368.7	369.4	370.9	372.5	374.1	375.7	381.0
140°	381.2	381.0	380.8	380.6	380.4	380.5	381.0	381.5	382.1	382.6	387.5
142.5°	389.9	390.1	390.3	390.5	390.7	390.8	390.7	390.5	390.4	390.3	394.6
145°	405.0	404.8	404.7	404.6	404.5	404.3	404.3	404.3	404.3	404.3	406.6
147.5°	417.1	417.2	417.3	417.4	417.5	417.5	417.4	417.3	417.2	417.2	417.5
150°	426.0	426.0	425.9	425.9	425.8	425.8	425.7	425.6	425.5	425.5	425.5
152.5°	432.1	432.3	432.4	432.6	432.8	432.8	432.7	432.5	432.4	432.3	432.4
155°	442.2	442.3	442.3	442.4	442.5	442.4	442.2	441.9	441.7	441.5	441.8
157.5°	451.0	450.9	450.9	450.8	450.8	450.6	450.4	450.1	449.8	449.6	450.0
160°	456.2	455.9	455.7	455.4	455.1	455.0	454.9	454.8	454.7	454.6	455.1
162.5°	460.7	460.4	460.1	459.8	459.5	459.3	459.2	459.1	459.1	459.0	459.5
165°	466.5	466.1	465.6	465.2	464.8	464.6	464.6	464.6	464.6	464.6	465.3
167.5°	471.0	470.6	470.2	469.8	469.4	469.2	469.1	469.1	469.0	469.0	469.7
170°	473.6	473.1	472.6	472.2	471.7	471.5	471.6	471.7	471.7	471.8	472.4
172.5°	475.3	474.8	474.3	473.9	473.4	473.2	473.3	473.4	473.4	473.5	474.1
175°	477.2	476.7	476.3	475.7	475.2	475.0	475.1	475.2	475.3	475.3	476.2
177.5°	478.1	477.6	477.2	476.7	476.3	476.1	476.3	476.4	476.5	476.6	477.2
180°	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2



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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	227.7	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°	180.7	191.2	201.8	208.5	211.5	214.3	217.2	220.2
95°	168.4	178.6	188.7	195.5	198.7	202.1	205.4	208.7
97.5°	158.5	168.0	177.4	183.8	186.9	190.1	193.3	196.4
100°	154.9	163.2	171.6	177.0	179.7	182.2	184.8	187.3
102.5°	181.5	176.3	171.2	170.0	172.8	175.6	178.4	181.2
105°	237.1	246.8	256.5	261.4	261.4	261.4	261.4	261.4
107.5°	254.3	263.4	272.6	278.6	281.4	284.4	287.2	290.1
110°	266.1	274.5	282.9	288.6	291.8	294.9	298.0	301.0





TEST NUMBER: P332673-840

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.7	284.6	292.6	298.1	301.2	304.4	307.6	310.7
115°	293.2	301.2	309.2	314.6	317.0	319.5	322.0	324.6
117.5°	309.1	316.5	324.0	329.0	331.9	334.8	337.6	340.4
120°	318.4	325.8	333.1	338.1	340.8	343.6	346.2	348.9
122.5°	328.1	335.4	342.6	347.5	349.9	352.3	354.8	357.2
125°	341.9	348.9	356.0	360.6	362.8	365.1	367.3	369.5
127.5°	354.0	360.3	366.8	371.1	373.4	375.9	378.2	380.6
130°	361.1	367.7	374.3	378.6	380.7	382.8	385.0	387.2
132.5°	368.8	375.1	381.3	385.5	387.6	389.7	391.7	393.8
135°	377.1	383.0	388.9	393.0	395.4	397.6	399.9	402.2
137.5°	386.5	391.8	397.3	400.8	402.5	404.3	406.1	407.8
140°	392.4	397.3	402.2	405.6	407.5	409.3	411.2	413.0
142.5°	398.8	403.0	407.4	410.2	411.7	413.2	414.8	416.4
145°	408.8	411.0	413.2	415.2	416.8	418.4	420.0	421.5
147.5°	417.9	418.2	418.6	419.3	420.6	421.8	423.0	424.2
150°	425.5	425.5	425.5	425.5	425.6	425.7	425.7	425.8
152.5°	432.5	432.6	432.8	432.8	432.7	432.7	432.7	432.6
155°	442.1	442.4	442.7	442.8	442.5	442.3	442.1	441.8
157.5°	450.4	450.8	451.2	451.2	450.8	450.4	450.0	449.6
160°	455.7	456.2	456.6	456.6	456.2	455.7	455.1	454.6
162.5°	459.9	460.4	460.9	460.8	460.3	459.8	459.2	458.7
165°	466.0	466.6	467.3	467.2	466.5	465.7	465.0	464.3
167.5°	470.4	471.1	471.7	471.7	470.9	470.1	469.3	468.6
170°	473.1	473.7	474.3	474.2	473.5	472.7	471.9	471.1
172.5°	474.8	475.4	476.1	475.9	475.1	474.2	473.4	472.5
175°	476.9	477.6	478.3	478.2	477.2	476.3	475.2	474.3
177.5°	477.7	478.2	478.7	478.5	477.8	477.0	476.3	475.4
180°	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2

(END OF REPORT)