

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: P332048-840

Luminaire Tested: **S123DIP-S1165D365U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332048-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D365U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 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: 6363.1 lumens
Efficiency: N/A
Efficacy: 127.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

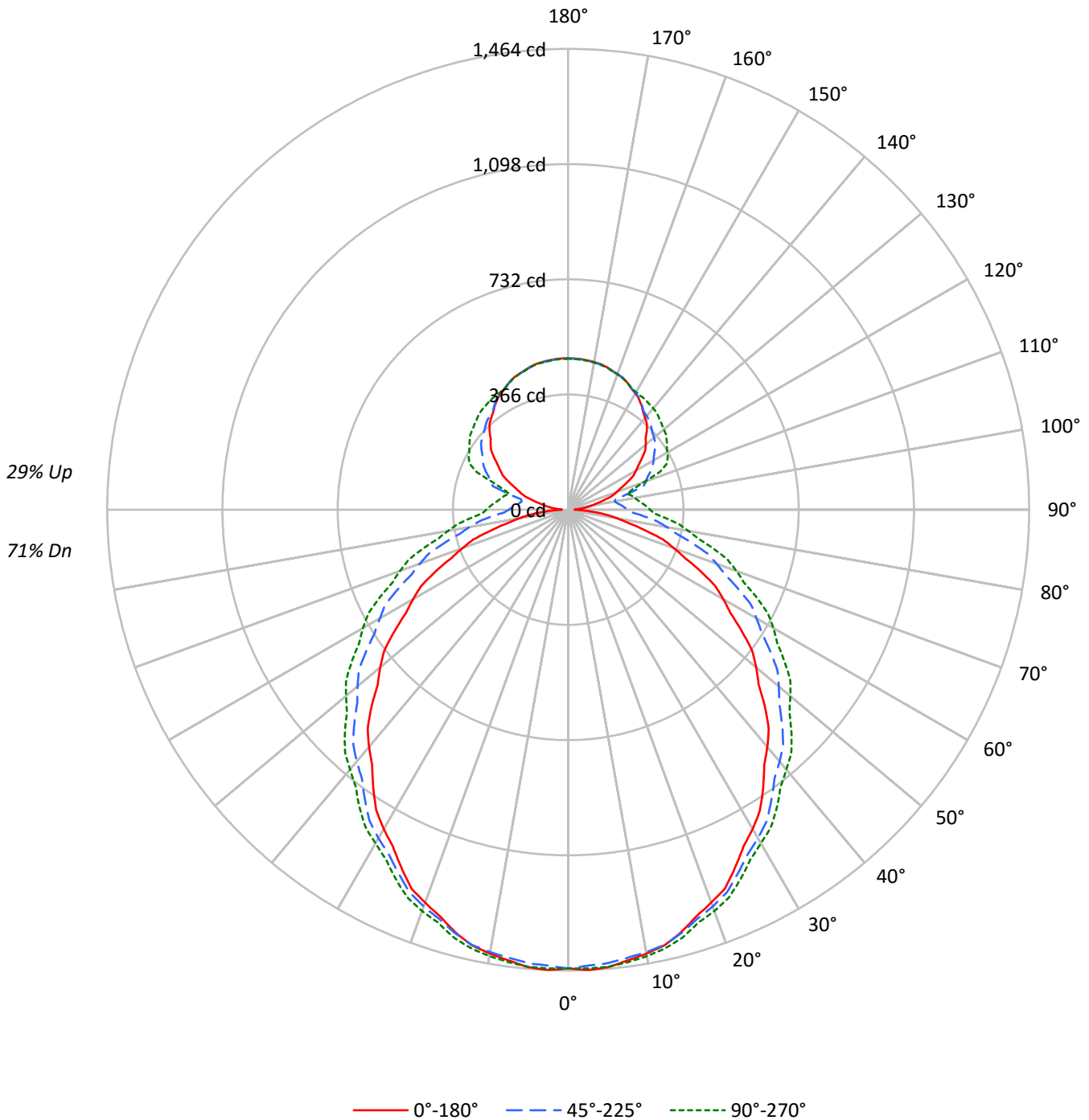
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332048-840

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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	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	75	75	75	71	
1	101	96	91	87	95	91	87	83	81	78	75	72	70	67	64	62	60	60	60	60	56	
2	91	83	76	70	86	78	72	67	70	65	61	63	59	55	55	52	50	50	50	50	46	
3	83	72	64	58	78	69	61	55	61	55	51	55	50	46	49	45	42	42	42	42	38	
4	76	64	55	49	71	61	53	47	54	48	43	49	43	39	43	39	36	36	36	36	32	
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	34	31	31	31	31	28	
6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	31	27	27	27	27	24	
7	59	46	38	32	56	44	36	30	40	33	28	36	30	26	32	27	24	24	24	24	21	
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	29	25	21	21	21	21	19	
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	19	19	19	17	
10	48	35	28	22	45	34	27	22	31	25	20	28	23	19	25	21	17	17	17	17	16	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15685	15685	15685
5°	15735	15290	15299
10°	15593	14937	14863
15°	15393	14539	14387
20°	15105	14082	13865
25°	14751	13556	13315
30°	14388	13084	12757
35°	13980	12583	12311
40°	13592	12128	11834
45°	13161	11692	11453
50°	12735	11259	11034
55°	12267	10818	10657
60°	11808	10368	10270
65°	11339	9889	9809
70°	10633	9352	9336
75°	9740	8736	8855
80°	8709	8132	8306
85°	7760	7716	7988



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.1	2.2
10°-20°	393.8	6.2
20°-30°	589.0	9.3
30°-40°	703.4	11.1
40°-50°	735.9	11.6
50°-60°	690.6	10.9
60°-70°	576.8	9.1
70°-80°	412.7	6.5
80°-90°	247.4	3.9
90°-100°	171.9	2.7
100°-110°	196.7	3.1
110°-120°	275.7	4.3
120°-130°	297.9	4.7
130°-140°	291.4	4.6
140°-150°	258.5	4.1
150°-160°	205.2	3.2
160°-170°	132.4	2.1
170°-180°	45.6	0.7
0°-30°	1120.9	17.6
0°-40°	1824.3	28.7
0°-60°	3250.8	51.1
0°-90°	4487.7	70.5
90°-120°	644.3	10.1
90°-150°	1492.1	23.4
90°-180°	1875.0	29.5
0°-180°	6363.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1457	1457	1457	1457	1457	
5°	1459	1455	1446	1458	1457	138
15°	1389	1393	1392	1407	1406	391
25°	1254	1269	1275	1294	1295	578
35°	1079	1105	1126	1148	1156	675
45°	883	921	960	990	1003	680
55°	673	726	783	824	838	602
65°	465	528	597	643	660	459
75°	252	327	406	457	478	270
85°	78	157	241	293	311	82
90°	21	103	188	241	260	15
95°	39	88	168	218	236	40
105°	119	161	197	180	194	126
115°	207	231	289	329	345	205
125°	286	291	336	369	382	256
135°	353	355	373	401	409	272
145°	406	406	407	420	427	253
155°	445	444	445	446	444	205
165°	469	468	468	470	468	133
175°	480	479	479	481	479	46
180°	480	480	480	480	480	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2
2.5°	1463.6	1462.8	1461.9	1461.1	1460.2	1458.6	1456.4	1454.1	1451.9	1449.7	1451.9
5°	1458.9	1458.1	1457.4	1456.7	1456.0	1454.6	1452.5	1450.4	1448.2	1446.1	1449.0
7.5°	1444.5	1444.7	1444.8	1445.0	1445.1	1444.2	1442.1	1440.1	1438.0	1435.9	1439.5
10°	1431.9	1432.6	1433.3	1434.0	1434.7	1434.1	1432.4	1430.6	1428.9	1427.0	1430.6
12.5°	1416.6	1417.5	1418.6	1419.6	1420.6	1420.5	1419.3	1418.1	1416.8	1415.6	1418.9
15°	1389.0	1390.1	1391.1	1392.2	1393.2	1393.6	1393.2	1392.9	1392.5	1392.2	1395.7
17.5°	1354.0	1356.1	1358.3	1360.4	1362.5	1363.5	1363.4	1363.2	1363.1	1362.9	1366.1
20°	1328.7	1330.8	1332.9	1335.0	1337.2	1338.6	1339.3	1340.0	1340.7	1341.4	1344.5
22.5°	1302.0	1304.1	1306.3	1308.4	1310.5	1312.0	1313.0	1314.0	1314.9	1316.0	1320.0
25°	1254.1	1257.6	1261.1	1264.7	1268.2	1270.4	1271.5	1272.5	1273.6	1274.7	1279.3
27.5°	1205.8	1209.8	1213.9	1217.9	1221.8	1225.1	1227.3	1229.5	1231.8	1234.1	1238.0
30°	1171.5	1176.1	1180.6	1185.3	1189.8	1193.6	1196.4	1199.2	1202.0	1204.9	1209.1
32.5°	1133.4	1138.5	1143.7	1148.8	1154.0	1158.4	1162.1	1165.8	1169.4	1173.1	1177.6
35°	1079.4	1085.1	1090.8	1096.4	1102.1	1107.1	1111.8	1116.3	1120.8	1125.5	1130.7
37.5°	1022.3	1028.6	1035.0	1041.4	1047.7	1053.7	1059.3	1065.0	1070.7	1076.3	1082.3
40°	984.2	990.6	996.9	1003.2	1009.6	1016.3	1023.4	1030.4	1037.4	1044.5	1050.6
42.5°	942.3	950.1	957.9	965.5	973.3	980.9	988.3	995.5	1002.9	1010.3	1016.8
45°	882.6	891.1	899.5	908.0	916.5	925.1	933.9	942.7	951.6	960.4	967.0
47.5°	820.0	829.6	839.2	848.9	858.5	868.3	878.4	888.5	898.6	908.7	916.1
50°	779.4	789.3	799.2	809.0	818.9	829.3	840.3	851.2	862.1	873.0	881.2
52.5°	736.3	746.7	757.1	767.6	778.0	789.3	801.3	813.3	825.5	837.5	846.0
55°	673.1	684.7	696.3	708.0	719.6	731.7	744.5	757.2	769.9	782.6	792.1
57.5°	611.5	623.6	635.7	647.8	660.0	673.1	686.9	700.8	714.7	728.6	738.2
60°	568.3	581.0	593.7	606.4	619.0	632.7	647.1	661.6	676.1	690.5	700.4
62.5°	527.7	540.7	553.6	566.6	579.6	593.7	609.0	624.3	639.6	655.0	664.8
65°	465.1	478.9	492.6	506.3	520.2	534.8	550.3	565.8	581.4	596.8	607.4
67.5°	401.6	416.3	430.8	445.5	460.0	475.2	491.0	506.9	522.6	538.5	550.0
70°	357.2	372.3	387.5	402.6	417.9	433.9	450.8	467.8	484.7	501.6	512.9
72.5°	316.5	331.7	346.9	362.0	377.2	393.5	411.0	428.5	446.1	463.5	475.1
75°	252.4	269.0	285.6	302.2	318.7	335.8	353.5	371.1	388.7	406.4	418.0
77.5°	196.5	213.3	229.9	246.7	263.4	280.6	298.4	316.2	334.0	351.7	364.1
80°	157.1	174.4	191.8	209.0	226.3	244.1	262.5	280.8	299.1	317.5	329.5
82.5°	122.9	140.5	158.0	175.6	193.1	211.3	229.8	248.5	267.1	285.7	297.7
85°	77.8	95.4	113.1	130.7	148.3	166.5	185.2	203.9	222.6	241.3	253.3
87.5°	42.3	60.0	77.8	95.4	113.2	131.2	149.4	167.5	185.7	204.0	216.0
90°	21.0	39.1	57.2	75.2	93.3	111.9	130.9	149.9	169.0	187.9	200.3
92.5°	26.0	41.4	56.8	72.1	87.5	104.4	122.9	141.4	159.9	178.3	190.6
95°	39.2	49.8	60.3	70.8	81.3	95.6	113.7	131.9	150.1	168.2	179.8
97.5°	59.3	70.3	81.2	92.2	103.1	114.0	124.8	135.6	146.4	157.2	168.3
100°	74.6	87.5	100.4	113.2	126.1	134.4	138.4	142.2	146.0	149.9	160.8
102.5°	92.2	103.5	114.7	126.0	137.3	144.2	146.6	149.1	151.6	154.0	162.0
105°	119.1	128.4	137.7	147.0	156.4	165.1	173.1	181.2	189.1	197.2	193.1
107.5°	145.8	153.7	161.6	169.6	177.4	189.1	204.6	220.2	235.7	251.2	250.3
110°	163.7	170.7	177.6	184.6	191.7	202.6	217.6	232.6	247.5	262.6	269.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	182.0	187.7	193.5	199.3	205.1	215.2	229.6	244.1	258.5	272.9	281.9
115°	207.4	212.2	216.8	221.6	226.2	235.3	248.7	262.2	275.6	288.9	298.2
117.5°	233.3	236.5	239.6	242.9	246.1	253.8	266.1	278.4	290.7	303.0	312.0
120°	248.3	250.7	253.3	255.7	258.2	265.4	277.3	289.1	301.0	312.9	321.6
122.5°	264.9	266.4	267.8	269.3	270.8	277.3	288.7	300.0	311.4	322.9	331.1
125°	286.0	286.6	287.2	287.9	288.5	294.1	304.7	315.2	325.8	336.3	343.9
127.5°	307.9	308.2	308.5	308.8	309.1	313.7	322.4	331.3	340.2	349.0	356.3
130°	321.6	321.9	322.2	322.4	322.8	326.6	334.0	341.3	348.7	356.1	363.1
132.5°	333.6	334.1	334.7	335.2	335.8	339.0	344.9	350.8	356.7	362.5	369.3
135°	353.3	353.4	353.5	353.7	353.8	355.9	360.1	364.3	368.5	372.7	379.3
137.5°	370.0	370.4	370.7	371.0	371.3	372.6	375.1	377.4	379.8	382.1	388.1
140°	380.2	380.7	381.1	381.6	382.1	383.0	384.3	385.6	386.9	388.2	393.7
142.5°	390.8	390.9	391.1	391.3	391.5	391.8	392.3	392.7	393.2	393.6	398.7
145°	405.6	405.8	406.0	406.2	406.4	406.6	406.7	406.9	407.0	407.2	410.1
147.5°	417.9	418.3	418.6	419.0	419.3	419.6	419.8	419.9	420.1	420.2	421.2
150°	426.5	426.7	426.9	427.2	427.4	427.6	427.8	427.9	428.1	428.2	428.4
152.5°	434.1	434.2	434.3	434.4	434.5	434.7	434.7	434.8	434.9	435.0	435.4
155°	445.0	444.8	444.6	444.5	444.3	444.3	444.4	444.4	444.5	444.6	445.0
157.5°	453.4	453.4	453.4	453.3	453.3	453.3	453.2	453.1	453.0	453.0	453.4
160°	458.6	458.5	458.4	458.3	458.3	458.2	458.1	458.0	458.0	457.9	458.3
162.5°	463.4	463.2	463.0	462.8	462.6	462.4	462.3	462.3	462.2	462.1	462.6
165°	469.3	469.0	468.8	468.6	468.3	468.2	468.1	468.0	467.9	467.9	468.5
167.5°	473.8	473.5	473.2	472.9	472.5	472.4	472.4	472.4	472.4	472.4	473.0
170°	476.4	476.1	475.7	475.4	475.1	474.9	474.9	474.9	474.9	474.9	475.6
172.5°	478.1	477.8	477.4	477.0	476.6	476.5	476.5	476.6	476.7	476.7	477.4
175°	480.3	479.9	479.5	479.2	478.8	478.6	478.7	478.8	478.8	478.9	479.5
177.5°	480.9	480.6	480.3	480.0	479.6	479.5	479.6	479.6	479.7	479.8	480.3
180°	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2
2.5°	1454.1	1456.4	1458.6	1459.7	1459.4	1459.1	1458.8	1458.5
5°	1451.8	1454.6	1457.4	1458.6	1458.3	1457.9	1457.6	1457.2
7.5°	1443.0	1446.5	1450.1	1451.7	1451.2	1450.8	1450.4	1450.0
10°	1434.1	1437.6	1441.2	1442.6	1441.9	1441.2	1440.5	1439.8
12.5°	1422.2	1425.4	1428.7	1429.9	1429.2	1428.5	1427.7	1427.0
15°	1399.2	1402.7	1406.2	1407.9	1407.5	1407.1	1406.8	1406.4
17.5°	1369.3	1372.5	1375.6	1377.0	1376.5	1376.0	1375.5	1375.0
20°	1347.7	1350.9	1354.0	1355.8	1356.1	1356.6	1356.9	1357.3
22.5°	1324.0	1328.1	1332.0	1333.9	1333.7	1333.5	1333.3	1333.1
25°	1283.8	1288.5	1293.0	1295.4	1295.4	1295.4	1295.4	1295.4
27.5°	1241.9	1245.9	1249.8	1251.9	1252.2	1252.5	1252.8	1253.1
30°	1213.4	1217.6	1221.7	1223.9	1223.9	1223.9	1223.9	1223.9
32.5°	1182.1	1186.7	1191.1	1193.9	1194.7	1195.6	1196.4	1197.2
35°	1136.1	1141.3	1146.6	1150.0	1151.4	1152.9	1154.3	1155.6
37.5°	1088.2	1094.3	1100.2	1103.8	1105.0	1106.1	1107.2	1108.3
40°	1056.5	1062.5	1068.5	1072.2	1073.6	1075.0	1076.4	1077.8
42.5°	1023.4	1030.0	1036.5	1040.8	1042.7	1044.7	1046.6	1048.6
45°	973.8	980.5	987.2	992.0	994.8	997.6	1000.5	1003.2
47.5°	923.7	931.3	938.9	943.7	945.8	948.1	950.3	952.4
50°	889.3	897.5	905.5	910.8	913.3	915.7	918.3	920.7
52.5°	854.3	862.7	871.1	876.9	879.9	882.9	886.0	889.0
55°	801.6	811.1	820.7	826.9	829.7	832.5	835.4	838.2
57.5°	747.8	757.4	767.0	773.5	776.8	780.1	783.5	786.7
60°	710.2	720.1	730.0	736.9	740.8	744.7	748.5	752.5
62.5°	674.7	684.6	694.5	701.3	704.8	708.4	712.1	715.6
65°	618.0	628.6	639.2	646.2	649.7	653.3	656.8	660.4
67.5°	561.6	573.2	584.7	592.0	595.0	597.9	600.9	603.9
70°	524.2	535.5	546.7	554.2	557.7	561.3	564.7	568.3
72.5°	486.7	498.3	509.8	517.4	520.9	524.4	528.0	531.5
75°	429.7	441.3	452.9	460.9	465.1	469.4	473.6	477.8
77.5°	376.3	388.6	400.9	408.6	411.9	415.2	418.4	421.6
80°	341.4	353.5	365.5	373.2	376.8	380.3	383.8	387.3
82.5°	309.7	321.7	333.7	341.4	345.0	348.5	352.0	355.6
85°	265.3	277.3	289.2	297.0	300.5	304.1	307.6	311.1
87.5°	228.0	240.1	252.2	259.9	263.6	267.1	270.6	274.2
90°	212.6	224.9	237.2	245.2	248.8	252.6	256.2	259.9
92.5°	202.8	215.0	227.2	235.0	238.3	241.7	245.0	248.3
95°	191.2	202.7	214.2	221.7	225.2	228.7	232.3	235.8
97.5°	179.6	190.7	201.8	209.1	212.8	216.4	220.0	223.6
100°	171.6	182.5	193.4	200.6	204.2	207.8	211.4	215.0
102.5°	170.0	177.9	185.9	191.7	195.4	199.0	202.7	206.4
105°	188.8	184.7	180.6	180.2	183.5	186.8	190.2	193.5
107.5°	249.5	248.6	247.8	243.7	236.2	228.7	221.3	213.8
110°	275.7	282.2	288.7	287.8	279.2	270.7	262.3	253.7



TEST NUMBER: P332048-840

CATALOG NUMBER: S123DIP-S1165D365U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	290.7	299.7	308.6	313.5	314.2	314.9	315.6	316.3
115°	307.5	316.8	326.0	332.2	335.4	338.5	341.6	344.8
117.5°	321.0	330.0	339.1	345.1	347.8	350.6	353.5	356.3
120°	330.4	339.1	347.9	353.5	356.0	358.4	360.9	363.3
122.5°	339.4	347.7	355.9	361.3	363.9	366.4	368.9	371.4
125°	351.4	359.0	366.6	371.6	374.3	376.9	379.5	382.1
127.5°	363.6	370.7	378.0	382.7	385.0	387.2	389.4	391.7
130°	370.1	377.2	384.2	388.7	390.6	392.5	394.6	396.5
132.5°	376.1	382.8	389.5	393.9	396.2	398.4	400.5	402.7
135°	385.9	392.4	399.0	403.1	404.7	406.2	407.7	409.2
137.5°	394.0	400.0	406.0	409.7	411.3	412.9	414.5	416.2
140°	399.4	405.1	410.6	414.2	415.9	417.5	419.0	420.6
142.5°	403.6	408.6	413.6	416.9	418.4	419.9	421.5	423.0
145°	413.1	416.1	419.1	421.3	422.7	424.1	425.6	427.0
147.5°	422.2	423.2	424.2	425.3	426.2	427.0	427.9	428.8
150°	428.6	428.7	428.9	429.2	429.6	430.1	430.6	431.0
152.5°	435.7	436.0	436.3	436.3	436.1	435.8	435.6	435.4
155°	445.5	445.9	446.3	446.2	445.8	445.2	444.7	444.2
157.5°	453.9	454.4	454.9	454.8	454.2	453.6	452.9	452.3
160°	458.8	459.3	459.8	459.7	459.2	458.6	458.1	457.5
162.5°	463.2	463.7	464.2	464.3	463.8	463.3	462.8	462.3
165°	469.1	469.8	470.4	470.4	469.9	469.3	468.8	468.2
167.5°	473.6	474.3	474.9	474.9	474.3	473.6	473.0	472.4
170°	476.3	476.9	477.5	477.5	476.9	476.3	475.6	474.9
172.5°	478.0	478.6	479.2	479.2	478.5	477.8	477.1	476.4
175°	480.0	480.6	481.1	481.1	480.5	479.8	479.2	478.6
177.5°	480.8	481.3	481.8	481.7	481.1	480.5	479.8	479.2
180°	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3

(END OF REPORT)