

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: P332050

Luminaire Tested: **S123DIP-S1165D365U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332050
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D365U835-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6163.9 lumens
Efficiency: N/A
Efficacy: 123.8 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

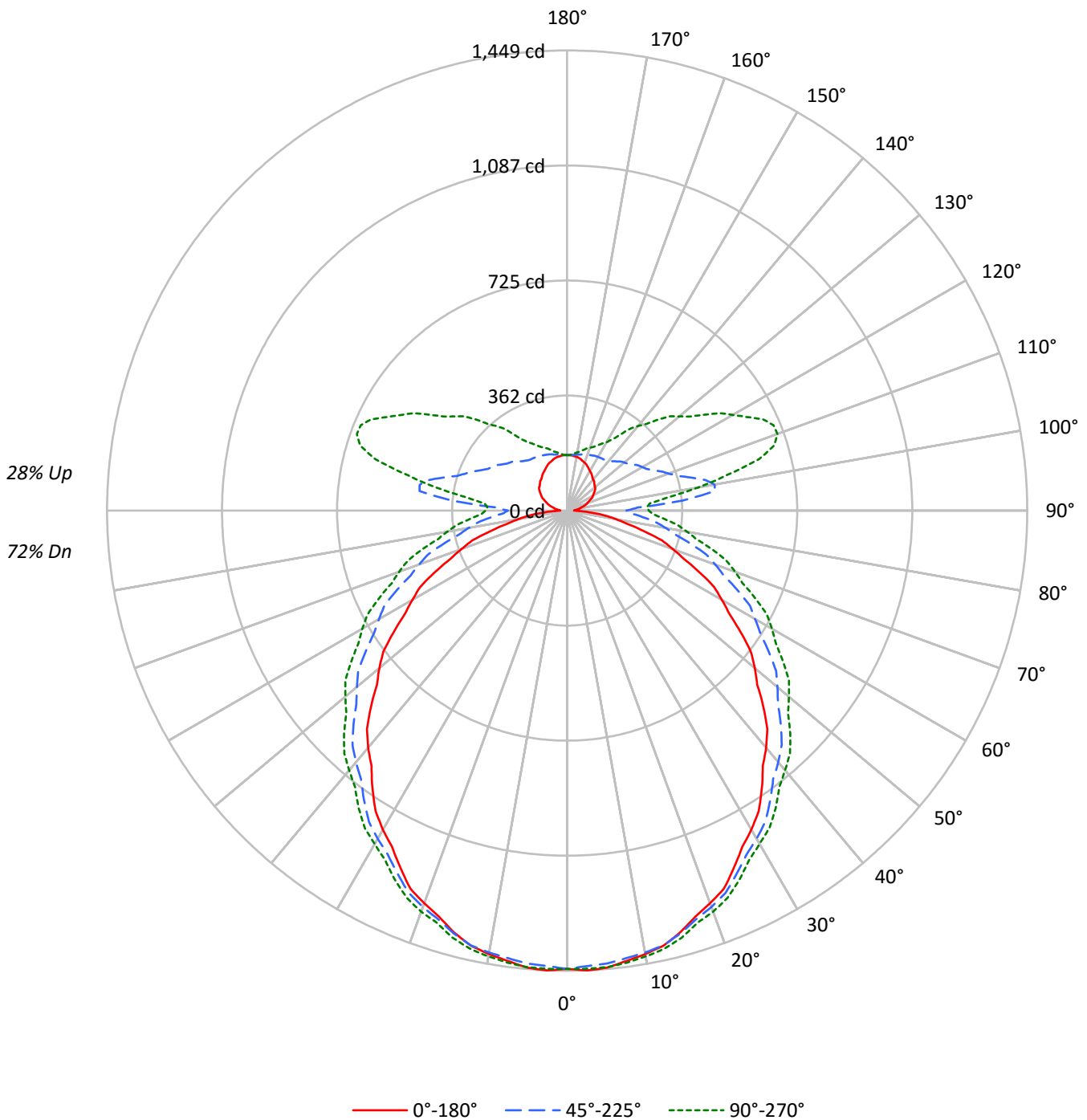
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	107	107	107	107	96	96	96	86	86	86	76	76	76	76	76	76	72	
1	101	96	91	87	96	91	87	83	82	79	76	73	71	68	65	63	62	65	63	62	58	
2	92	83	76	70	86	79	73	67	71	66	61	63	59	56	56	53	51	56	53	51	47	
3	83	73	64	58	78	69	62	56	62	56	51	56	51	47	50	46	43	50	46	43	39	
4	76	64	55	49	72	61	53	47	55	48	43	49	44	40	44	40	36	44	40	36	33	
5	70	57	48	42	66	54	46	40	49	42	37	44	39	34	40	35	31	40	35	31	29	
6	64	51	42	36	61	49	41	35	44	37	32	40	34	30	36	31	28	36	31	28	25	
7	59	46	38	32	56	44	36	31	40	33	28	36	31	26	33	28	24	33	28	24	22	
8	55	42	34	28	52	40	32	27	37	30	25	33	28	24	30	25	22	30	25	22	20	
9	51	38	30	25	49	37	29	24	34	27	23	31	25	21	28	23	20	28	23	20	18	
10	48	35	28	23	46	34	27	22	31	25	20	28	23	19	26	21	18	26	21	18	16	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15532	15532	15532
5°	15581	15141	15150
10°	15441	14792	14718
15°	15242	14397	14247
20°	14958	13944	13729
25°	14607	13423	13185
30°	14248	12956	12632
35°	13844	12460	12191
40°	13459	12010	11719
45°	13033	11577	11342
50°	12611	11149	10926
55°	12146	10713	10553
60°	11692	10267	10169
65°	11230	9793	9712
70°	10529	9260	9244
75°	9643	8650	8768
80°	8626	8052	8224
85°	7681	7639	7911



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.8	2.2
10°-20°	390.0	6.3
20°-30°	583.2	9.5
30°-40°	696.5	11.3
40°-50°	728.7	11.8
50°-60°	683.9	11.1
60°-70°	571.2	9.3
70°-80°	408.7	6.6
80°-90°	245.1	4.0
90°-100°	250.0	4.1
100°-110°	387.5	6.3
110°-120°	345.6	5.6
120°-130°	258.7	4.2
130°-140°	189.4	3.1
140°-150°	131.1	2.1
150°-160°	88.6	1.4
160°-170°	52.0	0.8
170°-180°	16.9	0.3
0°-30°	1110.0	18.0
0°-40°	1806.5	29.3
0°-60°	3219.1	52.2
0°-90°	4443.9	72.1
90°-120°	983.2	16.0
90°-150°	1562.4	25.3
90°-180°	1720.0	27.9
0°-180°	6163.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1443	1443	1443	1443	1443	
5°	1445	1441	1432	1444	1443	137
15°	1375	1380	1379	1393	1393	387
25°	1242	1257	1262	1282	1283	572
35°	1069	1094	1114	1137	1144	668
45°	874	912	951	980	993	674
55°	666	719	775	816	830	597
65°	461	522	591	636	654	455
75°	250	324	402	452	473	267
85°	77	156	239	290	308	81
90°	21	102	186	239	257	15
95°	29	118	365	264	261	26
105°	54	113	402	657	626	56
115°	80	119	301	596	680	80
125°	105	126	253	450	525	94
135°	121	143	219	349	404	94
145°	136	154	198	260	292	85
155°	153	165	191	217	226	70
165°	167	172	183	194	198	47
175°	174	174	176	178	178	17
180°	175	175	175	175	175	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1449.3	1448.5	1447.6	1446.8	1445.9	1444.4	1442.2	1439.9	1437.7	1435.5	1437.7
5°	1444.6	1443.9	1443.2	1442.5	1441.8	1440.4	1438.3	1436.2	1434.1	1432.0	1434.8
7.5°	1430.4	1430.6	1430.7	1430.9	1431.0	1430.1	1428.0	1426.0	1424.0	1421.9	1425.4
10°	1417.9	1418.6	1419.3	1420.0	1420.7	1420.1	1418.4	1416.6	1414.9	1413.1	1416.6
12.5°	1402.8	1403.7	1404.7	1405.7	1406.7	1406.6	1405.4	1404.2	1403.0	1401.8	1405.0
15°	1375.4	1376.5	1377.5	1378.6	1379.6	1380.0	1379.6	1379.3	1378.9	1378.6	1382.1
17.5°	1340.8	1342.9	1345.0	1347.1	1349.2	1350.2	1350.1	1349.9	1349.8	1349.6	1352.8
20°	1315.7	1317.8	1319.9	1322.0	1324.1	1325.5	1326.2	1326.9	1327.6	1328.3	1331.4
22.5°	1289.3	1291.4	1293.5	1295.6	1297.7	1299.2	1300.2	1301.2	1302.1	1303.1	1307.1
25°	1241.8	1245.3	1248.8	1252.3	1255.8	1258.0	1259.1	1260.1	1261.2	1262.2	1266.8
27.5°	1194.0	1198.0	1202.0	1206.0	1209.9	1213.1	1215.3	1217.5	1219.8	1222.0	1225.9
30°	1160.1	1164.6	1169.1	1173.7	1178.2	1181.9	1184.7	1187.5	1190.3	1193.1	1197.3
32.5°	1122.3	1127.4	1132.5	1137.6	1142.7	1147.1	1150.7	1154.4	1158.0	1161.6	1166.1
35°	1068.9	1074.5	1080.1	1085.7	1091.3	1096.3	1100.9	1105.4	1109.9	1114.5	1119.7
37.5°	1012.3	1018.6	1024.9	1031.2	1037.5	1043.4	1049.0	1054.6	1060.2	1065.8	1071.7
40°	974.6	980.9	987.2	993.4	999.7	1006.4	1013.4	1020.3	1027.3	1034.3	1040.3
42.5°	933.1	940.8	948.5	956.1	963.8	971.3	978.6	985.8	993.1	1000.4	1006.9
45°	874.0	882.4	890.7	899.1	907.5	916.1	924.8	933.5	942.3	951.0	957.6
47.5°	812.0	821.5	831.0	840.6	850.1	859.8	869.8	879.8	889.8	899.8	907.2
50°	771.8	781.6	791.4	801.1	810.9	821.2	832.1	842.9	853.7	864.5	872.6
52.5°	729.1	739.4	749.7	760.1	770.4	781.6	793.5	805.4	817.4	829.3	837.7
55°	666.5	678.0	689.5	701.1	712.6	724.6	737.2	749.8	762.4	775.0	784.4
57.5°	605.5	617.5	629.5	641.5	653.6	666.5	680.2	694.0	707.7	721.5	731.0
60°	562.7	575.3	587.9	600.5	613.0	626.5	640.8	655.1	669.5	683.8	693.6
62.5°	522.5	535.4	548.2	561.1	573.9	587.9	603.1	618.2	633.4	648.6	658.3
65°	460.6	474.2	487.8	501.4	515.1	529.6	544.9	560.3	575.7	591.0	601.5
67.5°	397.7	412.2	426.6	441.1	455.5	470.6	486.2	501.9	517.5	533.2	544.6
70°	353.7	368.7	383.7	398.7	413.8	429.7	446.4	463.2	480.0	496.7	507.9
72.5°	313.4	328.5	343.5	358.5	373.5	389.7	407.0	424.3	441.7	459.0	470.5
75°	249.9	266.4	282.8	299.2	315.6	332.5	350.0	367.5	384.9	402.4	413.9
77.5°	194.6	211.2	227.7	244.3	260.8	277.9	295.5	313.1	330.7	348.3	360.5
80°	155.6	172.7	189.9	207.0	224.1	241.7	259.9	278.1	296.2	314.4	326.3
82.5°	121.7	139.1	156.5	173.9	191.2	209.2	227.6	246.1	264.5	282.9	294.8
85°	77.0	94.5	112.0	129.4	146.9	164.9	183.4	201.9	220.4	238.9	250.8
87.5°	42.0	59.5	77.0	94.6	112.2	129.9	147.9	166.0	184.0	202.0	213.8
90°	21.1	39.0	56.8	75.0	92.8	111.0	129.8	148.7	167.6	186.5	198.0
92.5°	23.6	41.1	59.5	77.7	96.1	117.8	144.6	177.4	209.8	221.9	220.2
95°	29.3	44.0	61.5	81.1	103.9	133.1	180.2	250.0	325.1	365.2	336.4
97.5°	35.9	48.5	63.9	81.4	102.8	132.0	177.0	252.7	365.7	469.1	502.2
100°	40.3	51.8	65.5	81.6	101.3	128.7	169.5	237.8	346.9	471.4	551.2
102.5°	45.0	55.7	67.9	82.6	100.3	125.9	163.9	224.1	322.6	445.5	546.2
105°	53.6	63.0	73.5	86.1	101.2	123.9	158.0	209.4	291.2	402.0	513.2
107.5°	61.2	69.3	78.5	89.8	103.2	124.1	155.1	199.6	267.7	362.6	464.0
110°	66.7	74.0	82.1	92.3	104.6	124.6	154.5	195.3	256.6	340.2	433.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	72.9	79.1	86.1	95.1	106.3	125.2	153.4	191.7	246.8	321.9	405.3
115°	80.3	85.9	92.2	99.9	110.1	128.1	154.1	188.2	236.8	300.6	370.2
117.5°	89.0	93.2	97.5	103.4	112.7	128.7	153.8	184.8	227.2	282.9	344.0
120°	93.9	96.7	100.2	105.5	114.0	129.5	153.7	183.6	222.3	273.5	329.5
122.5°	99.3	101.3	103.9	108.7	116.0	131.3	154.8	182.7	218.6	265.2	316.5
125°	105.4	106.1	108.3	112.1	118.9	133.5	156.0	181.6	213.0	253.1	298.3
127.5°	111.3	112.0	114.3	117.9	125.0	138.5	158.8	181.2	208.7	242.4	281.1
130°	115.0	115.7	118.5	122.4	129.5	142.3	161.0	181.4	206.1	235.3	270.6
132.5°	116.5	117.8	121.2	126.2	133.6	145.6	162.6	181.3	202.9	228.7	260.3
135°	121.2	122.2	125.8	130.7	137.8	149.1	163.9	179.7	197.7	218.9	246.0
137.5°	125.5	126.7	130.3	135.6	142.7	152.5	165.2	178.8	193.5	210.6	233.5
140°	127.4	129.1	132.7	138.3	145.4	154.8	166.1	177.7	190.8	205.2	225.7
142.5°	130.8	132.0	135.5	140.3	147.1	155.3	165.5	176.0	187.4	199.6	217.8
145°	136.2	136.9	139.8	144.7	150.4	158.3	167.5	177.0	186.9	197.5	211.6
147.5°	140.2	140.8	143.9	148.5	154.3	161.2	169.6	178.2	186.9	196.2	206.7
150°	143.8	144.2	147.0	151.6	156.5	162.9	171.0	178.5	186.9	195.1	203.9
152.5°	147.5	147.6	150.4	154.4	158.8	164.9	171.9	179.0	186.1	193.7	201.6
155°	153.0	153.0	155.1	158.7	162.6	167.5	173.5	179.2	185.2	191.2	198.2
157.5°	157.4	157.7	159.4	162.5	165.8	169.6	174.4	179.5	184.0	189.0	194.4
160°	160.8	160.8	162.2	165.0	167.5	171.0	175.3	179.5	183.4	187.3	191.9
162.5°	163.3	163.3	164.5	166.7	168.9	171.9	175.6	179.2	182.3	185.6	189.3
165°	167.1	166.8	167.5	169.3	170.7	173.2	176.0	178.5	180.6	183.1	185.9
167.5°	170.0	169.6	170.0	171.3	172.3	173.9	175.9	177.9	178.9	180.5	182.6
170°	171.7	171.0	171.4	172.4	173.2	173.9	175.6	177.0	177.8	178.8	180.6
172.5°	172.9	172.4	172.5	173.3	173.7	174.1	175.6	176.8	176.9	177.4	178.6
175°	174.2	173.9	173.5	174.2	174.2	174.6	175.3	176.0	175.6	175.6	176.3
177.5°	174.9	174.6	174.3	174.6	174.6	174.6	174.9	175.4	174.9	174.6	174.9
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1439.9	1442.2	1444.4	1445.4	1445.1	1444.8	1444.5	1444.3
5°	1437.6	1440.4	1443.2	1444.4	1444.1	1443.7	1443.4	1443.0
7.5°	1428.9	1432.4	1435.9	1437.5	1437.0	1436.6	1436.2	1435.8
10°	1420.1	1423.6	1427.1	1428.5	1427.8	1427.1	1426.4	1425.7
12.5°	1408.3	1411.5	1414.7	1415.9	1415.2	1414.5	1413.8	1413.1
15°	1385.5	1389.0	1392.5	1394.1	1393.8	1393.4	1393.1	1392.7
17.5°	1355.9	1359.1	1362.2	1363.5	1363.1	1362.6	1362.1	1361.6
20°	1334.5	1337.7	1340.8	1342.6	1342.9	1343.3	1343.6	1344.0
22.5°	1311.1	1315.1	1319.0	1320.9	1320.7	1320.5	1320.3	1320.1
25°	1271.3	1275.9	1280.4	1282.7	1282.7	1282.7	1282.7	1282.7
27.5°	1229.8	1233.7	1237.6	1239.7	1240.0	1240.3	1240.6	1240.9
30°	1201.5	1205.7	1209.8	1211.9	1211.9	1211.9	1211.9	1211.9
32.5°	1170.6	1175.1	1179.5	1182.2	1183.0	1183.9	1184.7	1185.5
35°	1125.0	1130.2	1135.4	1138.8	1140.2	1141.6	1143.0	1144.3
37.5°	1077.6	1083.6	1089.5	1093.0	1094.2	1095.3	1096.4	1097.5
40°	1046.2	1052.1	1058.1	1061.7	1063.1	1064.5	1065.9	1067.3
42.5°	1013.4	1019.9	1026.4	1030.6	1032.5	1034.5	1036.4	1038.4
45°	964.3	970.9	977.6	982.3	985.1	987.9	990.7	993.4
47.5°	914.7	922.2	929.7	934.5	936.6	938.8	941.0	943.1
50°	880.6	888.7	896.7	901.9	904.4	906.8	909.3	911.7
52.5°	846.0	854.3	862.6	868.3	871.3	874.3	877.3	880.3
55°	793.8	803.2	812.7	818.8	821.6	824.4	827.2	830.0
57.5°	740.5	750.0	759.5	765.9	769.2	772.5	775.8	779.0
60°	703.3	713.1	722.9	729.7	733.6	737.4	741.2	745.1
62.5°	668.1	677.9	687.7	694.4	697.9	701.5	705.1	708.6
65°	612.0	622.5	633.0	639.9	643.4	646.9	650.4	653.9
67.5°	556.1	567.6	579.0	586.2	589.2	592.1	595.0	598.0
70°	519.1	530.3	541.4	548.8	552.3	555.8	559.2	562.7
72.5°	481.9	493.4	504.8	512.3	515.8	519.3	522.8	526.3
75°	425.5	437.0	448.5	456.4	460.6	464.8	469.0	473.1
77.5°	372.6	384.8	397.0	404.6	407.9	411.1	414.3	417.5
80°	338.1	350.0	361.9	369.6	373.1	376.6	380.1	383.5
82.5°	306.7	318.6	330.4	338.1	341.6	345.1	348.6	352.1
85°	262.7	274.6	286.4	294.1	297.6	301.1	304.6	308.1
87.5°	225.8	237.7	249.7	257.5	260.9	264.5	268.1	271.5
90°	210.2	222.4	234.7	243.1	246.2	250.1	253.9	257.0
92.5°	220.5	226.0	234.8	240.4	242.9	245.1	248.7	251.2
95°	304.5	274.3	266.4	260.9	257.6	258.0	259.0	261.1
97.5°	482.2	429.5	394.4	359.1	336.5	324.1	318.0	318.5
100°	573.7	555.2	523.9	480.6	448.4	426.1	415.8	419.6
102.5°	598.6	607.6	593.3	568.2	543.9	527.0	518.9	514.3
105°	596.8	642.0	658.5	655.7	642.6	632.3	624.2	625.6
107.5°	557.2	623.9	664.2	683.0	686.4	684.9	684.2	684.0
110°	523.7	597.8	651.5	682.1	694.8	700.4	702.5	704.6



TEST NUMBER: P332050

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	489.3	564.6	623.3	661.0	682.2	694.0	699.8	703.0
115°	443.9	513.8	574.1	618.2	647.5	665.9	675.7	680.3
117.5°	407.5	468.9	523.9	568.5	598.9	619.4	632.3	637.4
120°	387.4	443.2	493.6	534.5	564.9	587.1	598.0	602.6
122.5°	370.1	421.0	468.1	506.3	533.6	553.8	565.6	570.8
125°	345.9	391.8	433.0	466.2	491.2	509.2	520.5	525.4
127.5°	323.5	364.7	402.3	432.6	455.2	470.8	481.2	485.8
130°	309.0	347.4	382.7	411.1	431.9	446.7	456.3	461.2
132.5°	295.1	330.7	363.7	391.0	410.9	426.0	435.0	439.3
135°	276.0	307.4	336.6	360.8	379.8	392.2	400.3	404.5
137.5°	258.2	284.3	309.6	330.7	347.0	359.5	366.6	370.0
140°	247.5	270.8	293.0	311.7	326.9	338.5	345.9	347.3
142.5°	236.6	256.7	276.1	292.5	305.7	316.2	323.1	324.5
145°	225.7	240.2	254.3	266.6	276.9	285.7	289.9	292.0
147.5°	217.1	227.2	237.2	245.5	253.4	259.7	263.7	265.2
150°	212.0	220.2	227.6	234.6	240.6	245.2	248.0	248.7
152.5°	208.9	215.9	222.5	228.1	232.5	236.2	237.6	237.7
155°	204.3	209.9	215.2	219.4	222.6	225.5	226.2	226.5
157.5°	199.3	204.0	208.1	211.5	214.2	216.3	216.9	216.8
160°	196.5	200.4	203.9	206.4	208.8	211.0	211.0	210.6
162.5°	193.1	196.4	199.7	201.9	203.5	205.3	205.3	205.0
165°	188.7	190.8	193.3	195.1	196.5	197.9	197.5	197.5
167.5°	184.9	186.5	187.9	189.2	189.8	190.8	190.5	190.5
170°	182.3	183.4	184.8	185.5	185.9	186.6	186.2	186.2
172.5°	180.1	180.9	182.0	182.4	182.5	183.2	182.6	182.3
175°	177.0	177.4	178.1	178.1	178.1	178.5	178.1	177.8
177.5°	175.1	175.4	175.7	175.7	175.4	175.7	175.1	175.1
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6

(END OF REPORT)