

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: P332062-930

Luminaire Tested: **S123DIP-S1165D585U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332062-930
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-S1165D585U930-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

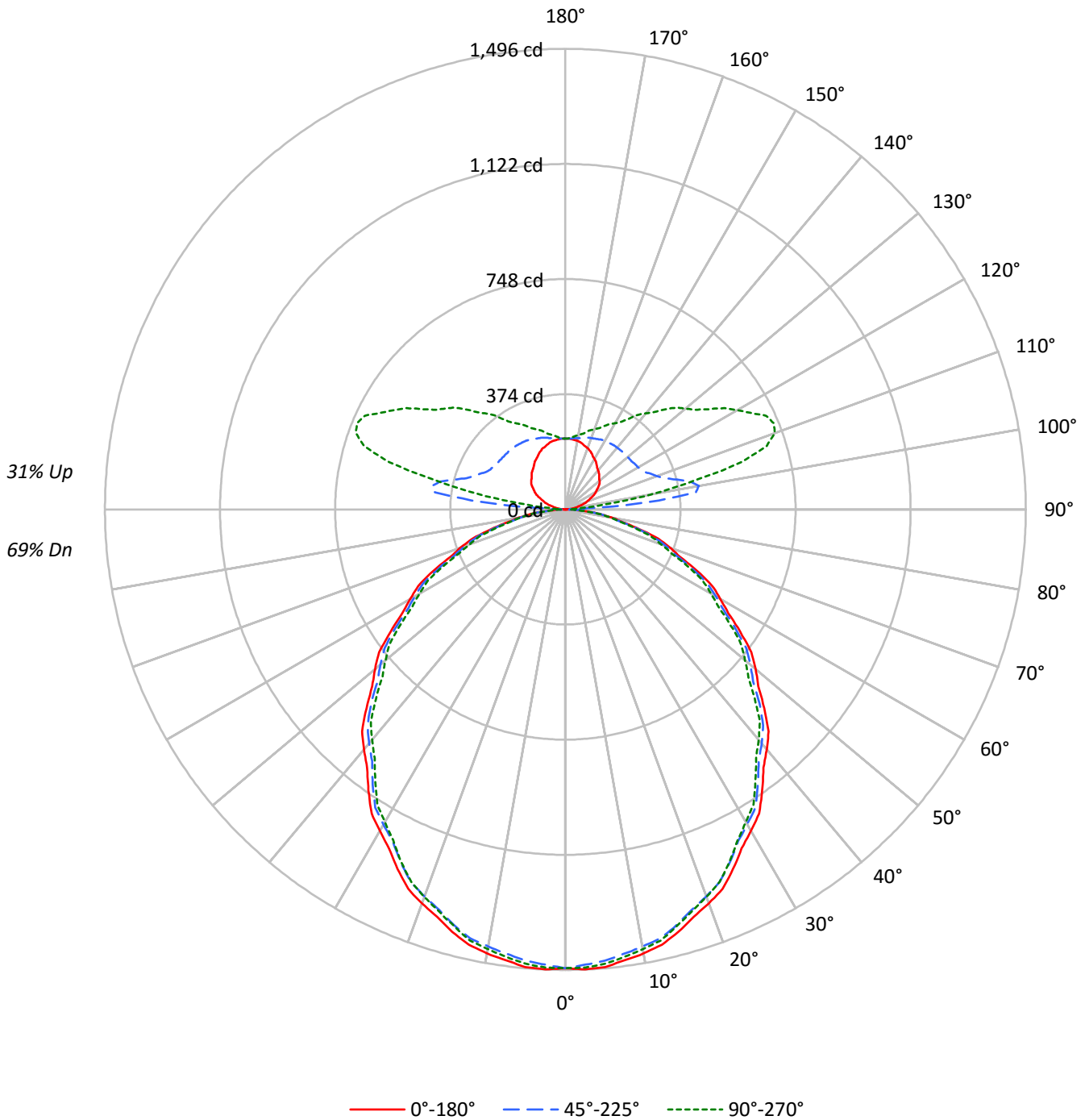
Lumens per Lamp: N/A
Luminaire Lumens: 5608.4 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 55.1
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	94	94	94	83	83	83	74	74	74	69
1	102	98	93	90	96	92	89	85	82	80	77	73	71	69	65	64	62	58
2	93	85	79	73	87	81	75	70	72	68	64	64	61	58	57	55	52	49
3	85	75	67	61	80	71	64	59	64	58	54	57	53	49	51	47	44	41
4	78	66	58	52	73	63	56	50	57	51	46	51	46	42	45	41	38	35
5	71	59	51	45	67	56	49	43	51	44	40	46	40	36	41	37	33	31
6	66	53	45	39	62	51	43	37	46	39	35	41	36	32	37	33	29	27
7	61	48	40	34	57	46	38	33	42	35	31	38	32	28	34	29	26	24
8	57	44	36	30	53	42	34	29	38	32	27	34	29	25	31	27	23	21
9	53	40	32	27	50	38	31	26	35	29	25	32	27	23	29	24	21	19
10	49	37	29	24	47	35	28	24	32	26	22	29	24	21	27	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16043	16043	16043
5°	16119	15896	16008
10°	16010	15759	15856
15°	15824	15581	15610
20°	15605	15326	15340
25°	15311	15023	14992
30°	14989	14686	14574
35°	14651	14331	14146
40°	14299	13939	13722
45°	13910	13577	13247
50°	13520	13134	12769
55°	13011	12675	12288
60°	12499	12140	11752
65°	12045	11556	11196
70°	11374	10889	10408
75°	10393	10019	9590
80°	9372	8976	8901
85°	8225	7916	7608



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.4	2.5
10°-20°	396.4	7.1
20°-30°	585.6	10.4
30°-40°	684.0	12.2
40°-50°	687.7	12.3
50°-60°	604.1	10.8
60°-70°	450.0	8.0
70°-80°	256.4	4.6
80°-90°	75.4	1.3
90°-100°	127.8	2.3
100°-110°	362.0	6.5
110°-120°	356.1	6.3
120°-130°	284.0	5.1
130°-140°	224.0	4.0
140°-150°	167.1	3.0
150°-160°	116.5	2.1
160°-170°	68.4	1.2
170°-180°	22.3	0.4
0°-30°	1122.4	20.0
0°-40°	1806.5	32.2
0°-60°	3098.3	55.2
0°-90°	3880.1	69.2
90°-120°	846.0	15.1
90°-150°	1521.1	27.1
90°-180°	1728.0	30.8
0°-180°	5608.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1490	1490	1490	1490	1490	
5°	1492	1485	1471	1483	1482	141
15°	1420	1414	1398	1407	1401	400
25°	1289	1281	1265	1266	1262	594
35°	1115	1107	1091	1083	1076	697
45°	914	908	892	877	870	705
55°	693	691	675	662	655	621
65°	473	466	454	444	440	466
75°	250	245	241	235	231	267
85°	67	64	64	62	62	73
90°	1	6	12	13	14	5
95°	16	51	276	80	54	17
105°	54	80	374	654	592	57
115°	95	119	286	627	719	94
125°	133	156	267	484	567	118
135°	155	185	263	398	460	120
145°	177	203	260	327	360	111
155°	201	217	252	286	298	93
165°	220	226	241	256	260	62
175°	229	230	231	234	234	22
180°	230	230	230	230	230	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4
2.5°	1495.6	1494.7	1493.8	1492.9	1491.9	1490.2	1487.8	1485.2	1482.7	1480.2	1482.5
5°	1491.8	1490.4	1488.9	1487.5	1486.0	1483.8	1480.7	1477.5	1474.4	1471.2	1474.1
7.5°	1477.2	1475.7	1474.3	1472.8	1471.5	1469.1	1465.8	1462.6	1459.4	1456.1	1458.7
10°	1464.8	1463.4	1462.0	1460.5	1459.1	1456.6	1452.9	1449.2	1445.4	1441.8	1444.3
12.5°	1448.5	1447.2	1446.0	1444.9	1443.7	1441.3	1437.9	1434.4	1430.9	1427.4	1429.3
15°	1420.0	1418.9	1417.7	1416.6	1415.4	1413.0	1409.3	1405.6	1401.9	1398.2	1400.4
17.5°	1386.9	1385.4	1384.0	1382.5	1381.0	1378.4	1374.7	1371.0	1367.3	1363.6	1365.2
20°	1362.3	1360.6	1358.9	1357.1	1355.5	1352.7	1349.1	1345.4	1341.7	1338.0	1339.1
22.5°	1334.6	1332.9	1331.2	1329.5	1327.8	1325.1	1321.4	1317.7	1314.0	1310.3	1311.2
25°	1289.2	1287.5	1285.8	1284.1	1282.5	1279.7	1276.0	1272.4	1268.6	1264.9	1265.2
27.5°	1240.8	1239.2	1237.5	1235.8	1234.2	1231.4	1227.4	1223.4	1219.4	1215.4	1215.7
30°	1206.0	1204.5	1203.1	1201.7	1200.3	1197.6	1193.6	1189.6	1185.6	1181.6	1181.6
32.5°	1171.1	1169.2	1167.3	1165.5	1163.6	1161.1	1158.1	1155.0	1151.9	1148.8	1147.2
35°	1115.0	1113.3	1111.6	1109.9	1108.2	1105.5	1101.7	1098.0	1094.3	1090.6	1088.9
37.5°	1057.5	1055.4	1053.2	1051.1	1048.9	1045.9	1042.2	1038.4	1034.7	1030.9	1028.8
40°	1017.6	1015.9	1014.2	1012.4	1010.7	1007.9	1003.9	999.9	995.9	992.0	989.7
42.5°	977.5	975.7	973.7	971.8	969.8	966.9	962.9	958.9	954.9	951.0	948.7
45°	913.8	912.6	911.5	910.4	909.2	906.8	903.1	899.4	895.7	891.9	888.6
47.5°	850.4	848.8	847.2	845.5	843.8	841.3	837.8	834.3	830.9	827.4	824.0
50°	807.4	806.0	804.5	803.2	801.7	799.2	795.4	791.7	788.0	784.3	781.2
52.5°	762.3	761.3	760.3	759.4	758.4	755.9	752.0	748.1	744.2	740.2	737.5
55°	693.3	693.1	692.8	692.5	692.2	690.2	686.5	682.8	679.1	675.4	672.3
57.5°	627.7	626.7	625.7	624.8	623.9	621.9	618.9	616.0	613.0	610.0	607.2
60°	580.6	580.2	580.0	579.7	579.4	577.6	574.1	570.7	567.3	563.9	561.3
62.5°	538.5	537.8	537.0	536.3	535.6	533.5	530.0	526.6	523.3	519.8	517.2
65°	472.9	471.5	470.0	468.6	467.2	465.0	462.2	459.3	456.5	453.7	451.4
67.5°	403.4	402.2	401.0	399.7	398.4	396.7	394.5	392.4	390.2	388.1	386.0
70°	361.4	359.7	358.0	356.3	354.6	352.9	351.1	349.4	347.7	346.0	344.1
72.5°	317.3	316.1	314.8	313.6	312.3	310.7	308.8	306.8	304.9	303.0	301.2
75°	249.9	248.7	247.6	246.5	245.3	244.3	243.5	242.6	241.8	240.9	239.5
77.5°	190.2	189.6	188.9	188.3	187.7	186.9	185.8	184.8	183.8	182.8	181.8
80°	151.2	150.3	149.5	148.6	147.8	147.1	146.5	145.9	145.4	144.8	144.6
82.5°	113.3	113.1	112.9	112.8	112.6	112.4	112.3	112.3	112.1	112.0	111.5
85°	66.6	66.0	65.5	64.9	64.3	64.1	64.1	64.1	64.1	64.1	63.5
87.5°	26.8	26.3	25.8	25.4	24.9	24.7	24.7	24.8	24.9	24.9	24.5
90°	0.9	1.9	2.8	4.2	5.1	6.0	7.4	8.8	10.2	11.7	11.2
92.5°	5.8	8.6	12.5	16.1	20.0	26.9	39.1	59.0	78.7	71.5	54.0
95°	15.8	17.2	22.3	30.2	42.3	60.4	100.0	169.3	245.6	275.7	223.6
97.5°	27.0	27.5	31.5	38.3	50.2	69.9	107.6	185.7	312.8	427.4	457.2
100°	34.4	34.9	38.2	44.7	55.8	73.9	106.5	175.3	297.6	440.3	532.0
102.5°	42.2	43.0	46.0	52.1	62.1	78.8	107.9	166.4	275.3	416.2	535.7
105°	54.0	55.4	58.1	63.7	72.6	87.0	112.1	160.0	247.9	373.9	507.4
107.5°	66.4	67.8	70.5	76.0	84.3	97.7	119.7	159.5	230.4	336.5	457.7
110°	75.3	76.7	79.1	84.1	92.0	105.1	126.0	161.3	223.6	315.3	426.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	83.5	85.0	87.2	92.4	100.3	112.9	132.3	165.1	220.0	301.2	399.3
115°	95.3	97.2	100.0	104.6	112.5	125.1	142.8	171.1	218.6	286.0	366.5
117.5°	107.1	109.3	111.6	115.9	124.7	136.3	153.8	179.1	219.4	277.0	346.7
120°	115.4	116.8	119.0	123.7	132.6	144.1	160.9	185.1	220.9	273.0	336.2
122.5°	122.4	123.8	126.1	131.1	139.6	152.0	168.4	190.7	223.5	270.4	327.7
125°	132.6	133.5	136.2	141.4	150.2	162.7	179.0	199.5	227.4	266.9	316.7
127.5°	140.2	141.6	145.1	150.3	160.0	172.6	188.3	206.8	231.9	265.2	307.0
130°	145.1	146.5	150.7	156.2	166.0	178.6	193.9	211.6	234.8	264.2	301.8
132.5°	148.8	150.6	155.2	161.8	171.6	183.8	198.8	216.1	237.1	263.7	296.9
135°	155.3	157.2	162.3	169.3	179.0	191.6	206.0	221.8	240.4	263.2	290.7
137.5°	161.4	163.4	168.4	175.9	185.6	197.1	211.0	226.1	242.6	262.2	285.2
140°	165.6	167.9	172.5	179.9	189.2	200.9	214.3	228.4	244.1	261.8	281.8
142.5°	170.0	171.9	177.0	183.7	193.0	203.9	217.0	230.6	245.2	261.1	278.8
145°	177.2	178.6	182.8	189.7	197.6	208.3	220.5	233.0	246.0	259.9	274.8
147.5°	184.4	185.2	189.4	195.4	203.0	212.1	223.2	234.5	246.0	258.2	270.9
150°	189.2	189.7	193.5	199.5	206.0	214.3	225.1	234.8	246.0	256.7	268.3
152.5°	194.1	194.2	198.0	203.3	209.0	217.0	226.2	235.6	244.9	254.9	265.4
155°	201.4	201.4	204.2	208.8	213.9	220.5	228.4	235.8	243.7	251.6	260.9
157.5°	207.1	207.5	209.7	213.9	218.2	223.2	229.5	236.3	242.1	248.7	255.8
160°	211.6	211.6	213.4	217.2	220.5	225.1	230.6	236.3	241.3	246.5	252.5
162.5°	214.9	214.9	216.5	219.4	222.3	226.2	231.1	235.9	239.9	244.3	249.2
165°	220.0	219.5	220.5	222.7	224.6	227.9	231.5	234.8	237.7	240.9	244.6
167.5°	223.8	223.2	223.6	225.4	226.7	228.8	231.5	234.1	235.4	237.5	240.3
170°	226.0	225.1	225.5	226.9	227.9	228.8	231.1	233.0	233.9	235.3	237.7
172.5°	227.5	226.9	227.1	228.0	228.6	229.2	231.1	232.6	232.8	233.4	235.1
175°	229.3	228.8	228.4	229.3	229.3	229.8	230.6	231.5	231.1	231.1	232.0
177.5°	230.1	229.8	229.3	229.8	229.8	229.8	230.1	230.8	230.1	229.8	230.1
180°	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4
2.5°	1484.7	1487.0	1489.3	1490.4	1490.1	1489.9	1489.6	1489.5
5°	1476.9	1479.8	1482.6	1483.8	1483.2	1482.6	1482.1	1481.5
7.5°	1461.3	1463.8	1466.4	1467.5	1467.1	1466.8	1466.5	1466.2
10°	1446.9	1449.4	1452.0	1453.0	1452.5	1451.9	1451.3	1450.7
12.5°	1431.2	1433.1	1434.9	1435.7	1435.3	1435.0	1434.7	1434.4
15°	1402.7	1405.0	1407.3	1407.6	1405.9	1404.2	1402.5	1400.8
17.5°	1366.8	1368.4	1369.9	1370.4	1369.9	1369.2	1368.6	1368.0
20°	1340.3	1341.4	1342.6	1342.6	1341.8	1340.9	1340.1	1339.2
22.5°	1312.1	1313.0	1313.9	1313.9	1312.8	1311.7	1310.6	1309.5
25°	1265.5	1265.8	1266.1	1265.8	1264.9	1264.0	1263.2	1262.3
27.5°	1215.9	1216.1	1216.3	1215.9	1214.9	1213.7	1212.7	1211.6
30°	1181.6	1181.6	1181.6	1180.6	1178.6	1176.6	1174.6	1172.6
32.5°	1145.6	1144.0	1142.4	1141.1	1140.0	1138.9	1137.8	1136.8
35°	1087.2	1085.5	1083.8	1082.2	1080.8	1079.4	1077.9	1076.5
37.5°	1026.8	1024.7	1022.7	1021.2	1020.3	1019.4	1018.5	1017.6
40°	987.4	985.1	982.8	981.1	980.0	978.8	977.7	976.6
42.5°	946.4	944.1	941.8	940.1	939.0	937.8	936.7	935.6
45°	885.2	881.7	878.3	875.9	874.5	873.0	871.6	870.2
47.5°	820.7	817.3	813.9	811.6	810.4	809.1	807.9	806.7
50°	778.0	774.9	771.8	769.4	767.7	766.0	764.3	762.5
52.5°	734.9	732.2	729.5	727.3	725.6	723.9	722.2	720.5
55°	669.1	666.0	662.8	660.6	659.2	657.7	656.3	654.8
57.5°	604.5	601.7	598.8	596.6	595.0	593.4	591.7	590.0
60°	558.8	556.2	553.7	551.6	550.2	548.8	547.4	545.9
62.5°	514.7	512.1	509.6	507.8	506.8	505.8	504.9	503.9
65°	449.1	446.9	444.6	443.0	442.1	441.3	440.4	439.6
67.5°	384.1	382.0	380.1	378.5	377.3	376.1	374.9	373.7
70°	342.0	340.1	338.0	336.3	334.9	333.5	332.1	330.7
72.5°	299.5	297.7	295.9	294.6	293.9	293.2	292.4	291.7
75°	238.1	236.7	235.2	234.1	233.3	232.4	231.5	230.6
77.5°	180.8	179.9	178.9	178.4	178.4	178.4	178.4	178.4
80°	144.2	144.0	143.7	143.6	143.6	143.6	143.6	143.6
82.5°	111.0	110.5	110.0	109.6	109.3	109.2	108.9	108.7
85°	62.9	62.4	61.8	61.6	61.6	61.6	61.6	61.6
87.5°	24.5	24.3	24.1	24.2	24.1	24.2	24.3	24.2
90°	11.7	12.1	12.6	13.5	13.0	13.5	13.9	13.5
92.5°	39.1	31.1	27.5	25.0	24.2	22.7	23.2	22.4
95°	167.4	113.5	88.8	72.1	63.3	59.0	55.8	54.0
97.5°	417.4	334.3	274.3	218.7	184.3	163.4	150.8	146.8
100°	548.3	510.6	456.2	390.1	343.2	309.2	291.1	291.6
102.5°	591.8	590.6	558.9	517.0	480.5	453.6	438.4	427.7
105°	604.5	651.0	659.9	647.8	626.4	608.7	593.9	591.5
107.5°	567.9	643.4	684.1	700.7	701.1	695.1	690.1	685.8
110°	532.9	618.5	677.1	709.6	722.7	726.4	725.5	724.5



TEST NUMBER: P332062-930

CATALOG NUMBER: S123DIP-S1165D585U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	498.3	585.7	651.4	693.2	717.1	728.6	732.1	732.3
115°	452.5	533.4	601.8	652.4	687.3	707.8	717.1	719.4
117.5°	419.2	489.1	550.5	601.9	638.3	661.7	675.1	678.2
120°	401.8	464.6	520.3	567.4	604.1	630.1	641.2	644.1
122.5°	388.0	444.8	496.5	540.1	572.8	596.2	608.5	612.0
125°	369.7	420.4	465.0	502.2	532.0	552.4	564.1	567.4
127.5°	353.7	398.9	439.2	473.0	499.5	517.0	527.5	530.5
130°	343.6	385.5	423.1	454.8	479.5	496.2	506.0	509.6
132.5°	334.4	372.8	407.9	438.1	461.2	477.9	486.6	489.2
135°	321.8	354.8	385.1	411.6	434.3	448.3	456.6	459.9
137.5°	310.4	337.5	363.5	386.5	405.6	419.7	426.8	428.9
140°	303.7	327.3	349.7	369.7	387.3	400.4	407.8	407.3
142.5°	297.3	317.7	337.0	354.4	369.5	381.1	387.8	387.3
145°	289.7	305.1	319.9	333.5	345.0	354.8	358.6	359.5
147.5°	283.5	295.6	307.7	317.2	326.0	332.6	336.2	336.6
150°	279.0	289.7	299.5	308.3	315.3	320.4	323.2	323.2
152.5°	274.9	284.1	292.8	300.1	305.6	310.4	312.0	312.0
155°	268.8	276.2	283.2	288.8	292.9	296.7	297.6	298.1
157.5°	262.3	268.5	273.9	278.3	281.9	284.7	285.4	285.4
160°	258.5	263.7	268.3	271.6	274.8	277.6	277.6	277.1
162.5°	254.1	258.4	262.8	265.6	267.7	270.2	270.2	269.7
165°	248.3	251.1	254.4	256.7	258.5	260.4	259.9	259.9
167.5°	243.3	245.4	247.3	249.0	249.8	251.1	250.6	250.6
170°	239.9	241.3	243.2	244.1	244.6	245.6	245.1	245.1
172.5°	237.0	238.0	239.5	240.0	240.1	241.1	240.3	239.9
175°	233.0	233.4	234.4	234.4	234.4	234.8	234.4	233.9
177.5°	230.5	230.8	231.2	231.2	230.8	231.2	230.5	230.5
180°	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8

(END OF REPORT)