

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: P332053-940

Luminaire Tested: **S123DIP-S1165D365U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332053-940
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-S1165D365U940-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5414.2 lumens
Efficiency: N/A
Efficacy: 108.7 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

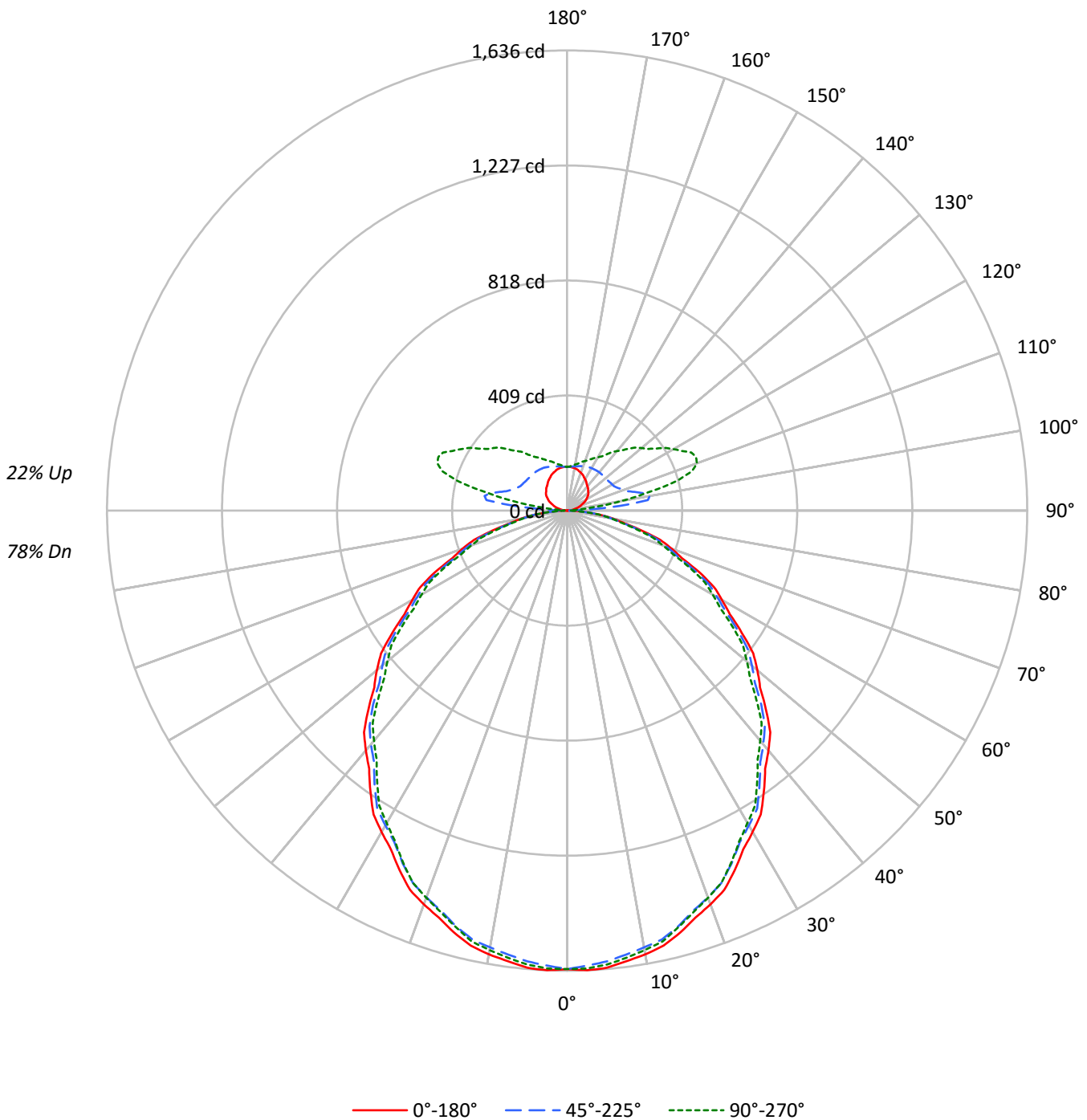
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	114	114	114	114	109	109	109	109	99	99	99	90	90	90	82	82	82	78
1	104	99	95	92	99	95	91	88	87	84	81	79	77	75	73	71	69	66
2	95	87	80	75	90	83	77	72	76	72	67	70	66	63	64	61	58	55
3	86	76	69	62	82	73	66	61	67	61	57	62	57	53	57	53	50	47
4	79	68	59	53	75	65	57	51	60	53	48	55	50	46	51	46	43	40
5	73	61	52	46	69	58	50	44	54	47	42	49	44	40	46	41	37	35
6	67	54	46	40	64	52	44	39	48	42	37	45	39	35	41	37	33	30
7	62	49	41	35	59	48	40	34	44	37	33	41	35	31	38	33	29	27
8	58	45	37	31	55	43	36	30	40	34	29	37	32	28	35	30	26	24
9	54	41	33	28	52	40	32	27	37	31	26	35	29	25	32	27	24	22
10	51	38	30	25	48	37	30	25	34	28	24	32	26	23	30	25	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17546	17546	17546
5°	17629	17386	17507
10°	17511	17235	17343
15°	17307	17041	17072
20°	17068	16763	16778
25°	16747	16431	16397
30°	16394	16063	15940
35°	16025	15674	15471
40°	15638	15244	15008
45°	15213	14850	14487
50°	14788	14364	13966
55°	14230	13863	13440
60°	13670	13276	12854
65°	13173	12638	12246
70°	12441	11909	11383
75°	11366	10959	10493
80°	10253	9819	9732
85°	9003	8657	8312



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.6	2.8
10°-20°	433.6	8.0
20°-30°	640.5	11.8
30°-40°	748.2	13.8
40°-50°	752.2	13.9
50°-60°	660.7	12.2
60°-70°	492.2	9.1
70°-80°	280.4	5.2
80°-90°	81.7	1.5
90°-100°	86.6	1.6
100°-110°	245.3	4.5
110°-120°	241.3	4.5
120°-130°	192.5	3.6
130°-140°	151.8	2.8
140°-150°	113.3	2.1
150°-160°	78.9	1.5
160°-170°	46.4	0.9
170°-180°	15.1	0.3
0°-30°	1227.6	22.7
0°-40°	1975.8	36.5
0°-60°	3388.7	62.6
0°-90°	4243.0	78.4
90°-120°	573.2	10.6
90°-150°	1030.7	19.0
90°-180°	1171.0	21.6
0°-180°	5414.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1630	1630	1630	1630	1630	
5°	1632	1624	1609	1622	1620	155
15°	1553	1547	1529	1539	1532	438
25°	1410	1401	1384	1385	1381	649
35°	1220	1211	1193	1185	1177	763
45°	999	993	976	959	952	771
55°	758	756	739	724	716	679
65°	517	510	496	485	481	510
75°	273	268	264	257	252	292
85°	73	70	70	67	67	80
90°	1	4	8	9	9	5
95°	11	35	187	55	37	12
105°	37	54	253	443	401	39
115°	65	80	194	425	488	64
125°	90	106	181	328	384	80
135°	105	126	178	270	312	81
145°	120	138	176	221	244	75
155°	136	147	170	194	202	63
165°	149	153	163	173	176	42
175°	155	156	157	159	158	15
180°	156	156	156	156	156	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1
2.5°	1635.8	1634.8	1633.8	1632.8	1631.7	1629.9	1627.2	1624.4	1621.7	1618.9	1621.4
5°	1631.6	1630.0	1628.4	1626.9	1625.3	1622.8	1619.4	1616.0	1612.6	1609.1	1612.2
7.5°	1615.6	1614.0	1612.5	1610.9	1609.4	1606.8	1603.2	1599.7	1596.2	1592.6	1595.4
10°	1602.1	1600.5	1599.0	1597.4	1595.9	1593.1	1589.0	1585.0	1580.9	1576.9	1579.7
12.5°	1584.2	1582.9	1581.5	1580.3	1579.0	1576.4	1572.6	1568.8	1565.0	1561.2	1563.3
15°	1553.1	1551.8	1550.6	1549.3	1548.1	1545.4	1541.4	1537.3	1533.3	1529.2	1531.7
17.5°	1516.9	1515.3	1513.7	1512.1	1510.4	1507.6	1503.5	1499.5	1495.4	1491.4	1493.2
20°	1490.0	1488.1	1486.2	1484.3	1482.6	1479.5	1475.5	1471.5	1467.4	1463.4	1464.6
22.5°	1459.7	1457.9	1456.0	1454.1	1452.2	1449.3	1445.2	1441.2	1437.2	1433.1	1434.0
25°	1410.1	1408.2	1406.3	1404.4	1402.7	1399.6	1395.6	1391.6	1387.5	1383.5	1383.8
27.5°	1357.1	1355.3	1353.5	1351.7	1349.9	1346.8	1342.5	1338.1	1333.7	1329.4	1329.6
30°	1319.0	1317.4	1315.9	1314.3	1312.8	1309.8	1305.5	1301.1	1296.7	1292.4	1292.4
32.5°	1280.9	1278.8	1276.8	1274.7	1272.6	1269.9	1266.6	1263.2	1259.8	1256.5	1254.7
35°	1219.5	1217.6	1215.8	1213.9	1212.0	1209.1	1205.0	1201.0	1196.9	1192.8	1191.0
37.5°	1156.6	1154.3	1151.9	1149.6	1147.2	1144.0	1139.9	1135.8	1131.7	1127.5	1125.2
40°	1112.9	1111.1	1109.2	1107.3	1105.5	1102.3	1098.0	1093.6	1089.2	1084.9	1082.4
42.5°	1069.2	1067.1	1065.0	1062.8	1060.7	1057.5	1053.1	1048.7	1044.4	1040.1	1037.6
45°	999.4	998.2	996.9	995.7	994.4	991.8	987.7	983.6	979.6	975.5	971.9
47.5°	930.1	928.4	926.6	924.7	922.9	920.2	916.3	912.5	908.7	904.9	901.3
50°	883.1	881.5	879.9	878.4	876.8	874.1	870.0	865.9	861.8	857.8	854.4
52.5°	833.7	832.7	831.6	830.5	829.5	826.8	822.5	818.2	814.0	809.6	806.6
55°	758.3	758.0	757.7	757.4	757.1	754.9	750.8	746.8	742.7	738.7	735.3
57.5°	686.5	685.5	684.4	683.4	682.3	680.2	676.9	673.7	670.5	667.2	664.1
60°	635.0	634.6	634.4	634.0	633.7	631.7	627.9	624.2	620.5	616.7	613.9
62.5°	589.0	588.2	587.4	586.6	585.8	583.4	579.7	576.0	572.3	568.6	565.7
65°	517.2	515.7	514.1	512.6	511.0	508.6	505.5	502.4	499.3	496.2	493.7
67.5°	441.2	439.9	438.5	437.1	435.8	433.9	431.5	429.2	426.8	424.5	422.2
70°	395.3	393.4	391.6	389.7	387.8	385.9	384.1	382.2	380.3	378.4	376.3
72.5°	347.1	345.7	344.3	343.0	341.6	339.8	337.7	335.6	333.5	331.4	329.4
75°	273.3	272.1	270.8	269.6	268.3	267.2	266.4	265.4	264.5	263.5	262.0
77.5°	208.0	207.3	206.6	206.0	205.3	204.4	203.2	202.2	201.0	199.9	198.9
80°	165.4	164.4	163.5	162.6	161.7	160.9	160.2	159.6	159.0	158.4	158.1
82.5°	123.9	123.7	123.5	123.3	123.1	123.0	122.9	122.8	122.6	122.5	122.0
85°	72.9	72.2	71.6	71.0	70.4	70.1	70.1	70.1	70.1	70.1	69.5
87.5°	29.2	28.6	28.0	27.5	26.8	26.5	26.4	26.4	26.3	26.2	25.9
90°	0.6	1.2	1.9	2.9	3.5	4.1	5.1	6.0	7.0	7.8	7.6
92.5°	3.9	5.8	8.5	10.9	13.6	18.2	26.5	40.0	53.3	48.4	36.6
95°	10.7	11.7	15.2	20.5	28.7	40.9	67.8	114.7	166.4	186.9	151.6
97.5°	18.3	18.5	21.3	25.9	34.1	47.3	72.9	125.8	212.0	289.6	309.8
100°	23.4	23.6	25.9	30.2	37.8	50.1	72.1	118.8	201.7	298.5	360.5
102.5°	28.6	29.2	31.1	35.3	42.1	53.4	73.2	112.7	186.5	282.0	363.0
105°	36.6	37.5	39.4	43.2	49.1	58.9	76.0	108.4	168.0	253.3	343.8
107.5°	45.0	45.9	47.8	51.5	57.1	66.2	81.1	108.1	156.1	228.0	310.1
110°	51.0	52.0	53.6	57.1	62.4	71.2	85.4	109.3	151.6	213.7	289.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	56.6	57.5	59.1	62.6	67.9	76.5	89.7	111.9	149.0	204.0	270.5
115°	64.6	65.9	67.8	70.9	76.2	84.8	96.8	115.9	148.1	193.8	248.3
117.5°	72.6	74.0	75.6	78.6	84.5	92.4	104.2	121.4	148.6	187.7	234.9
120°	78.1	79.1	80.7	83.8	89.8	97.6	109.1	125.4	149.7	184.9	227.8
122.5°	82.9	83.9	85.4	88.9	94.6	103.0	114.0	129.2	151.4	183.2	222.0
125°	89.8	90.4	92.3	95.8	101.7	110.3	121.4	135.2	154.1	180.8	214.6
127.5°	95.1	95.9	98.4	101.8	108.4	117.0	127.6	140.1	157.1	179.8	208.0
130°	98.4	99.2	102.1	105.8	112.5	121.0	131.4	143.4	159.2	179.0	204.5
132.5°	100.9	102.0	105.1	109.7	116.3	124.6	134.6	146.4	160.7	178.7	201.3
135°	105.2	106.5	109.9	114.7	121.4	129.8	139.6	150.3	162.9	178.3	197.0
137.5°	109.4	110.8	114.1	119.1	125.7	133.6	143.0	153.2	164.4	177.6	193.2
140°	112.2	113.8	116.9	122.0	128.2	136.2	145.3	154.7	165.4	177.5	190.9
142.5°	115.2	116.5	119.9	124.5	130.8	138.1	147.0	156.2	166.2	176.9	189.0
145°	120.0	121.0	123.9	128.6	133.9	141.2	149.4	157.8	166.7	176.1	186.2
147.5°	125.0	125.6	128.3	132.4	137.6	143.7	151.2	158.9	166.7	175.0	183.6
150°	128.2	128.6	131.1	135.2	139.6	145.3	152.5	159.2	166.7	174.0	181.8
152.5°	131.5	131.6	134.1	137.7	141.6	147.0	153.3	159.6	165.9	172.7	179.8
155°	136.4	136.4	138.3	141.5	145.0	149.4	154.7	159.8	165.1	170.5	176.7
157.5°	140.4	140.6	142.1	144.9	147.8	151.2	155.5	160.1	164.1	168.5	173.3
160°	143.4	143.4	144.6	147.1	149.4	152.5	156.3	160.1	163.5	167.0	171.1
162.5°	145.6	145.6	146.7	148.6	150.6	153.3	156.6	159.8	162.6	165.5	168.8
165°	149.0	148.7	149.4	151.0	152.2	154.4	156.9	159.2	161.0	163.3	165.8
167.5°	151.6	151.2	151.6	152.8	153.6	155.1	156.9	158.6	159.5	161.0	162.8
170°	153.1	152.5	152.8	153.7	154.4	155.1	156.6	157.8	158.5	159.4	161.0
172.5°	154.2	153.7	153.8	154.5	154.9	155.2	156.6	157.7	157.7	158.2	159.3
175°	155.3	155.1	154.7	155.3	155.3	155.7	156.3	156.9	156.6	156.6	157.2
177.5°	156.0	155.7	155.4	155.7	155.7	155.7	156.0	156.4	156.0	155.7	156.0
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1	1630.1
2.5°	1623.9	1626.4	1628.9	1630.0	1629.8	1629.5	1629.2	1629.1
5°	1615.3	1618.5	1621.6	1622.8	1622.2	1621.6	1621.0	1620.3
7.5°	1598.2	1601.0	1603.8	1605.0	1604.6	1604.3	1603.9	1603.6
10°	1582.5	1585.3	1588.1	1589.2	1588.6	1588.0	1587.3	1586.7
12.5°	1565.3	1567.4	1569.4	1570.3	1569.9	1569.5	1569.1	1568.8
15°	1534.2	1536.7	1539.2	1539.5	1537.7	1535.8	1533.9	1532.0
17.5°	1494.9	1496.6	1498.3	1498.9	1498.3	1497.5	1496.8	1496.2
20°	1465.9	1467.1	1468.4	1468.5	1467.6	1466.6	1465.7	1464.7
22.5°	1435.1	1436.1	1437.1	1437.0	1435.8	1434.6	1433.4	1432.3
25°	1384.1	1384.4	1384.7	1384.4	1383.5	1382.5	1381.6	1380.6
27.5°	1329.9	1330.1	1330.3	1329.9	1328.7	1327.5	1326.3	1325.2
30°	1292.4	1292.4	1292.4	1291.3	1289.1	1286.9	1284.7	1282.5
32.5°	1252.9	1251.2	1249.5	1248.0	1246.9	1245.6	1244.5	1243.3
35°	1189.1	1187.2	1185.4	1183.7	1182.1	1180.5	1178.9	1177.4
37.5°	1123.0	1120.8	1118.6	1117.0	1115.9	1114.9	1113.9	1112.9
40°	1080.0	1077.5	1075.0	1073.1	1071.8	1070.6	1069.3	1068.1
42.5°	1035.1	1032.6	1030.1	1028.2	1027.0	1025.7	1024.5	1023.2
45°	968.1	964.4	960.6	958.0	956.4	954.8	953.3	951.7
47.5°	897.6	893.9	890.2	887.7	886.4	884.9	883.6	882.3
50°	851.0	847.6	844.1	841.5	839.6	837.8	835.9	834.0
52.5°	803.8	800.8	797.9	795.5	793.6	791.8	789.9	788.0
55°	731.8	728.4	725.0	722.5	720.9	719.3	717.8	716.2
57.5°	661.1	658.1	655.0	652.6	650.8	649.0	647.1	645.3
60°	611.2	608.3	605.6	603.3	601.8	600.2	598.7	597.1
62.5°	562.9	560.1	557.3	555.4	554.3	553.2	552.2	551.2
65°	491.2	488.7	486.2	484.6	483.6	482.7	481.7	480.8
67.5°	420.1	417.9	415.7	413.9	412.7	411.3	410.0	408.8
70°	374.1	371.9	369.7	367.8	366.3	364.7	363.2	361.7
72.5°	327.5	325.6	323.6	322.3	321.5	320.7	319.9	319.1
75°	260.4	258.9	257.3	256.0	255.1	254.1	253.2	252.3
77.5°	197.8	196.7	195.6	195.1	195.1	195.1	195.1	195.1
80°	157.7	157.5	157.1	157.0	157.0	157.0	157.0	157.0
82.5°	121.4	120.8	120.3	119.8	119.6	119.4	119.1	118.9
85°	68.8	68.2	67.6	67.3	67.3	67.3	67.3	67.3
87.5°	25.8	25.6	25.4	25.4	25.3	25.4	25.4	25.4
90°	7.8	8.2	8.5	9.1	8.8	9.1	9.5	9.1
92.5°	26.6	21.0	18.5	16.9	16.4	15.4	15.8	15.2
95°	113.4	76.9	60.2	48.9	42.9	40.0	37.8	36.6
97.5°	282.8	226.5	185.8	148.2	124.9	110.8	102.2	99.5
100°	371.5	346.0	309.2	264.4	232.6	209.6	197.2	197.6
102.5°	401.0	400.2	378.7	350.4	325.6	307.4	297.1	289.8
105°	409.7	441.1	447.1	439.0	424.5	412.5	402.4	400.8
107.5°	384.8	436.0	463.6	474.8	475.1	471.0	467.6	464.8
110°	361.1	419.1	458.8	480.9	489.7	492.2	491.6	491.0



TEST NUMBER: P332053-940

CATALOG NUMBER: S123DIP-S1165D365U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	337.7	396.9	441.4	469.8	485.9	493.7	496.1	496.2
115°	306.6	361.4	407.8	442.1	465.7	479.6	485.9	487.5
117.5°	284.1	331.4	373.0	407.9	432.6	448.4	457.4	459.6
120°	272.2	314.8	352.6	384.4	409.3	427.0	434.5	436.4
122.5°	263.0	301.4	336.4	366.0	388.2	404.0	412.3	414.7
125°	250.5	284.9	315.1	340.4	360.5	374.3	382.3	384.4
127.5°	239.7	270.3	297.6	320.6	338.5	350.4	357.5	359.4
130°	232.8	261.3	286.8	308.2	324.9	336.3	342.9	345.4
132.5°	226.6	252.6	276.4	296.9	312.5	323.9	329.8	331.5
135°	218.0	240.4	260.9	278.8	294.4	303.8	309.4	311.7
137.5°	210.3	228.6	246.3	261.9	274.8	284.5	289.2	290.7
140°	205.8	221.9	236.9	250.5	262.5	271.3	276.3	276.1
142.5°	201.5	215.3	228.4	240.1	250.4	258.2	262.7	262.4
145°	196.4	206.7	216.8	226.0	233.8	240.4	243.0	243.6
147.5°	192.1	200.4	208.5	215.0	221.0	225.4	227.8	228.1
150°	189.0	196.4	203.0	208.9	213.7	217.1	219.0	219.0
152.5°	186.3	192.5	198.4	203.4	207.1	210.3	211.4	211.4
155°	182.2	187.2	191.9	195.6	198.5	201.1	201.7	202.0
157.5°	177.7	181.9	185.6	188.6	191.0	192.9	193.4	193.3
160°	175.2	178.7	181.8	184.0	186.2	188.2	188.2	187.8
162.5°	172.2	175.1	178.1	180.0	181.5	183.1	183.1	182.8
165°	168.3	170.1	172.4	174.0	175.2	176.5	176.1	176.1
167.5°	164.9	166.3	167.6	168.7	169.2	170.1	169.9	169.9
170°	162.6	163.5	164.8	165.4	165.8	166.4	166.0	166.0
172.5°	160.6	161.3	162.3	162.6	162.7	163.4	162.8	162.6
175°	157.8	158.2	158.8	158.8	158.8	159.2	158.8	158.5
177.5°	156.1	156.4	156.7	156.7	156.4	156.7	156.1	156.1
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7

(END OF REPORT)