

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: P332335-940

Luminaire Tested: **S123RDIP-S1000D365U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332335-940  
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: S123RDIP-S1000D365U940-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4553.0 lumens  
Efficiency: N/A  
Efficacy: 104.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

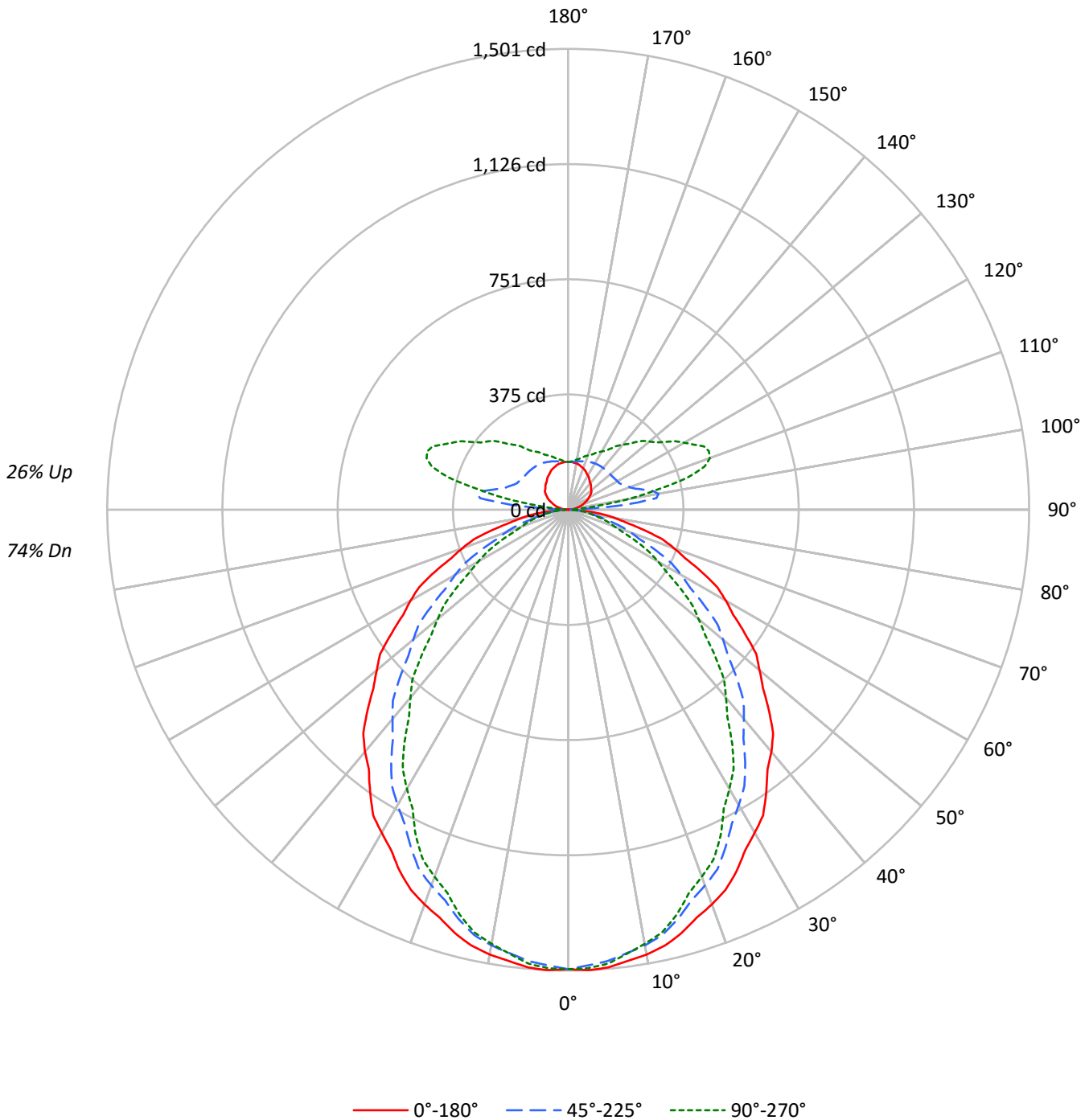
Input Watts (W): 43.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	113	113	113	113	107	107	107	107	97	97	97	87	87	87	78	78	78	74
1	104	99	96	92	98	95	91	88	86	83	81	78	76	74	70	69	67	64
2	95	87	81	76	90	83	78	73	76	71	68	69	65	62	62	60	57	54
3	87	77	70	64	82	74	67	62	67	62	58	61	57	53	56	52	49	46
4	80	69	61	55	76	66	59	53	60	54	50	55	50	46	50	46	43	40
5	74	62	53	47	70	59	52	46	54	48	43	50	44	40	45	41	38	35
6	68	56	47	41	64	53	46	40	49	43	38	45	40	36	41	37	33	31
7	63	51	42	37	60	49	41	36	45	38	34	41	36	32	38	33	30	28
8	59	46	38	33	56	44	37	32	41	35	30	38	32	29	35	30	27	25
9	55	42	35	30	52	41	34	29	38	32	27	35	30	26	32	28	24	23
10	51	39	32	27	49	38	31	26	35	29	25	32	27	24	30	26	22	21

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	16108	16108	16108
5°	16170	15946	16038
10°	16078	15746	15692
15°	15905	15377	15216
20°	15668	14917	14569
25°	15423	14400	13938
30°	15100	13803	13048
35°	14767	13205	12232
40°	14462	12500	11221
45°	14059	11805	10310
50°	13618	11015	9287
55°	13165	10113	8336
60°	12751	9145	7289
65°	12210	8099	6243
70°	11534	6801	5042
75°	10551	5352	4741
80°	9403	4736	4364
85°	7941	4199	3903



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.5	3.1
10°-20°	391.0	8.6
20°-30°	563.0	12.4
30°-40°	634.1	13.9
40°-50°	606.7	13.3
50°-60°	496.8	10.9
60°-70°	335.2	7.4
70°-80°	168.6	3.7
80°-90°	45.8	1.0
90°-100°	86.6	1.9
100°-110°	245.3	5.4
110°-120°	241.3	5.3
120°-130°	192.5	4.2
130°-140°	151.8	3.3
140°-150°	113.3	2.5
150°-160°	78.9	1.7
160°-170°	46.4	1.0
170°-180°	15.1	0.3
0°-30°	1094.5	24.0
0°-40°	1728.6	38.0
0°-60°	2832.1	62.2
0°-90°	3381.8	74.3
90°-120°	573.2	12.6
90°-150°	1030.7	22.6
90°-180°	1171.0	25.7
0°-180°	4553.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1496	1496	1496	1496	1496	
5°	1496	1490	1476	1486	1484	142
15°	1427	1413	1380	1374	1365	402
25°	1299	1267	1212	1188	1174	597
35°	1124	1078	1005	954	931	703
45°	924	867	776	709	677	712
55°	702	640	539	471	444	629
65°	479	411	318	261	245	474
75°	254	195	129	117	114	270
85°	64	39	34	32	32	72
90°	1	4	8	9	9	4
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°	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5
2.5°	1501.3	1500.4	1499.6	1498.7	1497.8	1496.1	1493.5	1490.9	1488.4	1485.8	1488.1
5°	1496.5	1495.0	1493.7	1492.4	1491.0	1488.7	1485.5	1482.3	1479.1	1475.8	1478.2
7.5°	1482.6	1481.1	1479.7	1478.2	1476.8	1473.9	1469.7	1465.5	1461.3	1457.1	1458.5
10°	1471.0	1469.1	1467.1	1465.3	1463.4	1460.0	1455.2	1450.3	1445.5	1440.6	1440.9
12.5°	1454.5	1452.3	1450.3	1448.1	1446.0	1442.0	1436.1	1430.1	1424.2	1418.3	1418.1
15°	1427.3	1424.3	1421.3	1418.4	1415.4	1410.2	1402.6	1395.0	1387.5	1379.9	1378.6
17.5°	1393.0	1389.6	1386.2	1382.7	1379.2	1372.7	1363.1	1353.5	1343.9	1334.3	1331.4
20°	1367.8	1363.5	1359.1	1354.9	1350.5	1343.3	1333.0	1322.8	1312.5	1302.3	1298.8
22.5°	1339.6	1334.7	1329.7	1324.7	1319.8	1311.9	1300.9	1290.0	1279.2	1268.3	1263.9
25°	1298.6	1291.9	1285.1	1278.4	1271.7	1262.0	1249.6	1237.2	1224.9	1212.5	1206.8
27.5°	1248.8	1241.4	1233.9	1226.5	1219.1	1208.4	1194.6	1180.8	1167.0	1153.2	1145.3
30°	1214.9	1206.8	1198.7	1190.6	1182.5	1170.9	1155.8	1140.7	1125.6	1110.5	1101.4
32.5°	1180.9	1171.7	1162.5	1153.3	1144.2	1131.7	1115.7	1099.7	1083.7	1067.7	1057.7
35°	1123.8	1114.1	1104.4	1094.8	1085.0	1071.7	1055.1	1038.3	1021.6	1004.9	993.3
37.5°	1066.0	1055.3	1044.5	1033.7	1022.9	1008.6	990.8	972.9	955.0	937.2	924.0
40°	1029.2	1017.4	1005.4	993.5	981.7	966.2	947.1	927.9	908.7	889.6	875.6
42.5°	987.4	975.5	963.7	951.8	940.0	924.2	904.4	884.6	864.8	845.0	829.6
45°	923.6	911.4	899.3	887.2	875.0	858.6	837.9	817.1	796.3	775.5	760.2
47.5°	859.8	846.4	833.1	819.7	806.5	789.4	768.7	747.9	727.1	706.3	689.6
50°	813.2	800.5	787.8	775.2	762.4	745.2	723.4	701.5	679.7	657.8	641.1
52.5°	771.4	757.7	743.9	730.1	716.4	698.7	677.1	655.4	633.8	612.2	594.8
55°	701.5	688.3	675.0	661.8	648.6	630.5	607.6	584.7	561.8	538.9	523.3
57.5°	636.9	622.5	608.1	593.7	579.3	560.6	537.5	514.5	491.5	468.5	453.7
60°	592.3	577.5	562.6	547.8	532.9	514.3	492.0	469.6	447.2	424.8	410.2
62.5°	547.6	532.8	517.9	503.1	488.3	469.7	447.3	424.9	402.5	380.1	366.4
65°	479.4	464.6	449.7	434.9	420.1	402.2	381.1	360.1	339.0	318.0	304.8
67.5°	411.2	396.2	381.2	366.2	351.2	333.6	313.4	293.3	273.1	252.9	243.1
70°	366.5	352.0	337.4	322.8	308.3	291.6	272.7	253.8	234.9	216.1	206.6
72.5°	321.8	307.6	293.2	278.8	264.5	248.7	231.6	214.5	197.2	180.1	172.4
75°	253.7	240.7	227.7	214.8	201.9	188.0	173.2	158.3	143.5	128.7	125.9
77.5°	191.5	179.8	168.1	156.4	144.7	134.0	124.5	114.9	105.4	95.9	94.4
80°	151.7	140.6	129.6	118.5	107.5	99.2	93.5	87.7	82.1	76.4	75.6
82.5°	113.9	104.3	94.8	85.2	75.6	69.6	66.9	64.3	61.6	58.9	58.1
85°	64.3	58.4	52.4	46.5	40.6	37.2	36.4	35.6	34.8	34.0	33.4
87.5°	23.5	21.2	18.9	16.8	14.5	13.5	13.6	13.8	14.0	14.2	13.9
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°	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5
2.5°	1490.5	1492.9	1495.2	1496.2	1495.8	1495.4	1495.0	1494.5
5°	1480.7	1483.1	1485.5	1486.5	1485.9	1485.4	1484.9	1484.3
7.5°	1459.8	1461.2	1462.5	1462.8	1461.8	1460.9	1460.0	1459.0
10°	1441.2	1441.5	1441.7	1441.2	1439.8	1438.4	1437.1	1435.7
12.5°	1417.9	1417.8	1417.6	1416.8	1415.2	1413.6	1412.1	1410.5
15°	1377.2	1375.9	1374.6	1372.9	1371.0	1369.1	1367.3	1365.4
17.5°	1328.6	1325.7	1322.9	1320.0	1317.2	1314.4	1311.6	1308.8
20°	1295.2	1291.7	1288.3	1284.9	1281.7	1278.4	1275.1	1271.9
22.5°	1259.5	1255.2	1250.8	1247.1	1244.1	1241.1	1238.1	1235.0
25°	1201.1	1195.4	1189.8	1185.4	1182.5	1179.6	1176.6	1173.6
27.5°	1137.5	1129.6	1121.7	1115.5	1111.0	1106.4	1101.9	1097.4
30°	1092.2	1083.0	1073.8	1067.1	1062.7	1058.5	1054.1	1049.8
32.5°	1047.7	1037.7	1027.6	1020.4	1015.8	1011.3	1006.7	1002.2
35°	981.7	970.1	958.5	950.3	945.5	940.6	935.8	930.9
37.5°	910.9	897.7	884.6	874.9	869.0	863.0	857.0	851.0
40°	861.6	847.6	833.5	823.4	817.2	811.0	804.8	798.6
42.5°	814.3	799.0	783.6	773.2	767.7	762.1	756.5	751.0
45°	744.8	729.4	714.0	703.1	696.6	690.2	683.7	677.3
47.5°	672.9	656.2	639.4	628.2	622.4	616.7	610.9	605.1
50°	624.4	607.6	590.9	579.4	573.3	567.0	560.9	554.6
52.5°	577.5	560.1	542.7	531.2	525.7	520.1	514.6	509.0
55°	507.6	492.0	476.3	465.7	460.4	455.0	449.6	444.2
57.5°	438.9	424.1	409.4	399.7	395.1	390.5	385.9	381.3
60°	395.7	381.1	366.5	357.0	352.4	347.8	343.2	338.6
62.5°	352.7	339.0	325.3	316.0	311.3	306.5	301.7	296.9
65°	291.6	278.3	265.1	257.0	254.0	251.1	248.2	245.1
67.5°	233.2	223.3	213.5	206.9	203.8	200.5	197.3	194.2
70°	197.2	187.7	178.3	172.1	169.1	166.1	163.2	160.2
72.5°	164.7	156.9	149.3	144.8	143.6	142.3	141.1	139.8
75°	123.2	120.6	117.9	116.3	115.7	115.1	114.6	114.0
77.5°	93.0	91.5	90.1	89.1	88.5	88.0	87.5	86.9
80°	74.8	74.0	73.2	72.6	72.1	71.5	70.9	70.4
82.5°	57.3	56.5	55.7	55.3	55.2	55.1	54.9	54.8
85°	32.9	32.4	31.8	31.6	31.6	31.6	31.6	31.6
87.5°	13.7	13.6	13.5	13.4	13.1	12.9	12.8	12.5
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: P332335-940

CATALOG NUMBER: S123RDIP-S1000D365U940-4F0-1E-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)