

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: P332333-830

Luminaire Tested: **S123RDIP-S1000D365U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332333-830
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: S123RDIP-S1000D365U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4941.7 lumens
Efficiency: N/A
Efficacy: 113.6 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

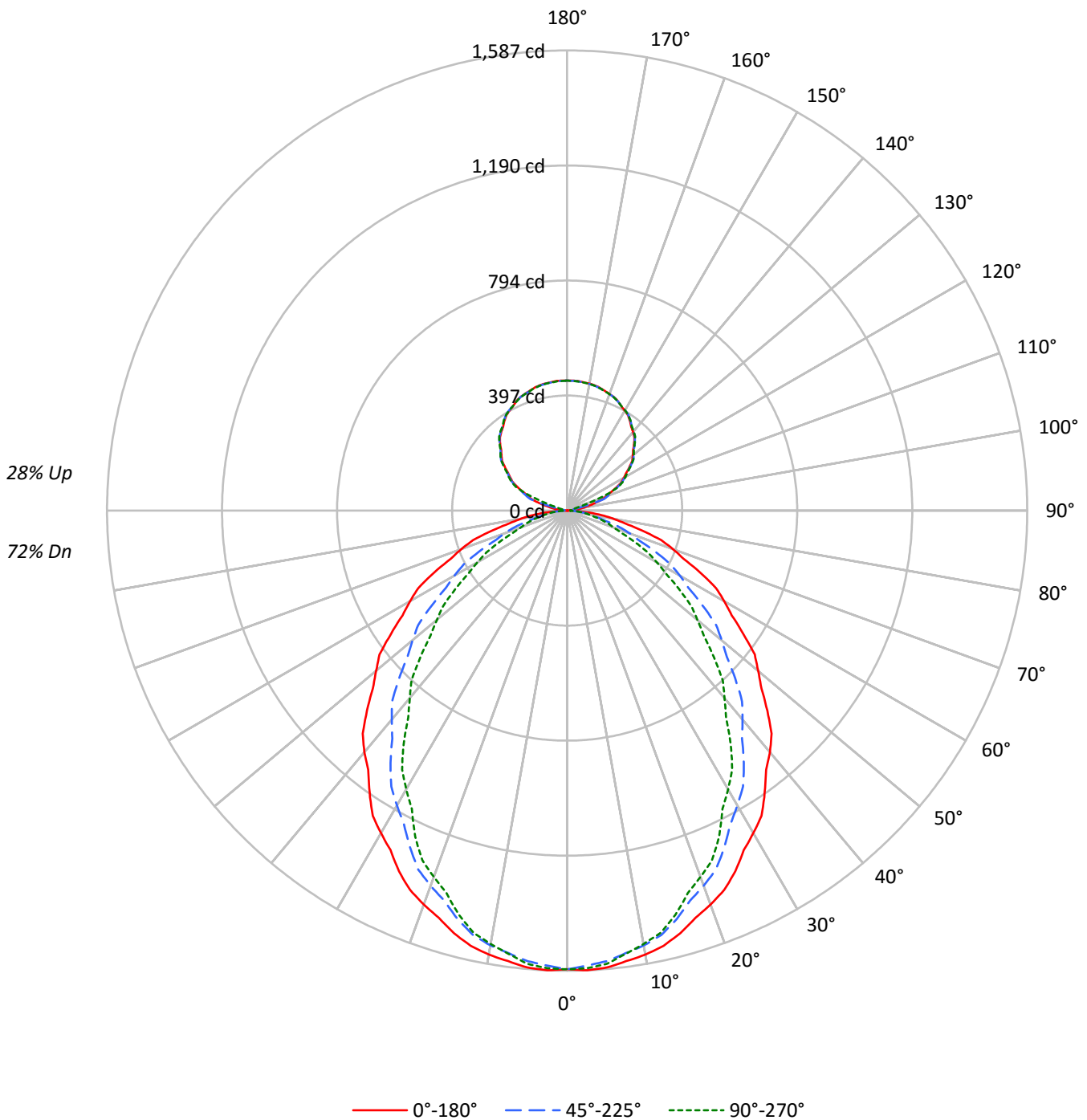
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	112	112	112	112	107	107	107	107	96	96	96	86	86	86	77	77	77	72
1	103	99	95	92	98	94	91	88	85	82	80	76	74	73	69	67	66	62
2	94	87	81	76	89	83	77	73	75	71	67	68	64	61	61	58	56	53
3	86	77	70	64	82	73	67	61	67	61	57	60	56	52	54	51	48	45
4	79	68	60	54	75	65	58	53	59	54	49	54	49	45	49	45	42	39
5	73	61	53	47	69	59	51	46	54	47	43	49	44	40	44	40	37	34
6	68	55	47	41	64	53	45	40	48	42	37	44	39	35	40	36	33	30
7	63	50	42	36	59	48	41	35	44	38	33	40	35	31	37	33	29	27
8	58	46	38	33	55	44	37	32	40	34	30	37	32	28	34	30	26	24
9	55	42	34	29	52	40	33	28	37	31	27	34	29	25	32	27	24	22
10	51	39	31	27	49	37	30	26	34	29	24	32	27	23	29	25	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17026	17026	17026
5°	17091	16855	16953
10°	16994	16644	16587
15°	16811	16254	16082
20°	16561	15767	15400
25°	16302	15221	14733
30°	15960	14589	13793
35°	15609	13958	12929
40°	15286	13212	11861
45°	14862	12478	10898
50°	14393	11643	9818
55°	13915	10689	8811
60°	13476	9666	7705
65°	12905	8560	6599
70°	12192	7188	5331
75°	11154	5656	5016
80°	9937	5009	4612
85°	8398	4434	4125



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.5	3.0
10°-20°	413.3	8.4
20°-30°	595.1	12.0
30°-40°	670.3	13.6
40°-50°	641.3	13.0
50°-60°	525.1	10.6
60°-70°	354.3	7.2
70°-80°	178.2	3.6
80°-90°	48.4	1.0
90°-100°	16.3	0.3
100°-110°	77.7	1.6
110°-120°	186.6	3.8
120°-130°	237.6	4.8
130°-140°	253.9	5.1
140°-150°	237.4	4.8
150°-160°	191.5	3.9
160°-170°	123.6	2.5
170°-180°	42.6	0.9
0°-30°	1156.9	23.4
0°-40°	1827.2	37.0
0°-60°	2993.6	60.6
0°-90°	3574.5	72.3
90°-120°	280.6	5.7
90°-150°	1009.4	20.4
90°-180°	1367.0	27.7
0°-180°	4941.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1582	1582	1582	1582	1582	
5°	1582	1575	1560	1571	1569	150
15°	1509	1493	1459	1452	1443	425
25°	1373	1339	1282	1255	1240	631
35°	1188	1140	1062	1009	984	743
45°	976	916	820	749	716	753
55°	742	676	570	498	470	665
65°	507	435	336	276	259	501
75°	268	206	136	124	121	286
85°	68	41	36	34	33	76
90°	0	4	8	9	10	4
95°	20	8	10	12	13	25
105°	99	101	73	17	15	105
115°	186	188	191	194	196	184
125°	262	265	266	267	268	234
135°	327	329	330	331	330	251
145°	377	379	380	381	381	236
155°	415	415	415	416	415	191
165°	438	437	437	439	437	124
175°	448	447	447	449	447	43
180°	448	448	448	448	448	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1586.9	1585.9	1585.1	1584.1	1583.2	1581.4	1578.7	1575.9	1573.2	1570.5	1572.9
5°	1581.8	1580.3	1578.9	1577.4	1576.0	1573.6	1570.2	1566.8	1563.4	1559.9	1562.5
7.5°	1567.1	1565.6	1564.1	1562.5	1560.9	1557.9	1553.5	1549.1	1544.6	1540.2	1541.6
10°	1554.8	1552.8	1550.8	1548.8	1546.8	1543.2	1538.1	1533.0	1527.9	1522.8	1523.1
12.5°	1537.4	1535.1	1533.0	1530.7	1528.4	1524.2	1518.0	1511.6	1505.4	1499.1	1498.9
15°	1508.6	1505.5	1502.3	1499.2	1496.1	1490.5	1482.5	1474.5	1466.6	1458.6	1457.2
17.5°	1472.4	1468.8	1465.2	1461.5	1457.8	1451.0	1440.8	1430.7	1420.5	1410.3	1407.3
20°	1445.8	1441.2	1436.6	1432.1	1427.5	1419.8	1409.0	1398.2	1387.3	1376.5	1372.8
22.5°	1416.0	1410.8	1405.5	1400.2	1395.1	1386.7	1375.1	1363.6	1352.1	1340.6	1336.0
25°	1372.6	1365.6	1358.4	1351.2	1344.2	1334.0	1320.9	1307.8	1294.7	1281.6	1275.5
27.5°	1320.0	1312.2	1304.3	1296.5	1288.5	1277.3	1262.7	1248.1	1233.5	1219.0	1210.6
30°	1284.1	1275.5	1267.1	1258.5	1249.9	1237.7	1221.7	1205.7	1189.8	1173.8	1164.1
32.5°	1248.2	1238.5	1228.8	1219.1	1209.5	1196.2	1179.3	1162.4	1145.5	1128.6	1118.0
35°	1187.9	1177.6	1167.3	1157.2	1146.9	1132.8	1115.2	1097.5	1079.9	1062.2	1049.9
37.5°	1126.8	1115.4	1104.0	1092.6	1081.2	1066.1	1047.3	1028.3	1009.5	990.6	976.7
40°	1087.9	1075.3	1062.7	1050.2	1037.6	1021.2	1001.1	980.8	960.5	940.3	925.5
42.5°	1043.7	1031.1	1018.6	1006.1	993.5	976.9	955.9	935.0	914.1	893.2	876.9
45°	976.3	963.4	950.6	937.7	924.9	907.6	885.6	863.7	841.7	819.7	803.5
47.5°	908.8	894.7	880.6	866.5	852.4	834.4	812.5	790.5	768.5	746.6	729.0
50°	859.5	846.1	832.7	819.4	805.9	787.7	764.6	741.5	718.4	695.3	677.6
52.5°	815.4	800.9	786.3	771.8	757.2	738.5	715.7	692.8	670.0	647.1	628.7
55°	741.5	727.5	713.5	699.6	685.6	666.5	642.2	618.0	593.8	569.6	553.1
57.5°	673.3	658.0	642.8	627.5	612.4	592.6	568.2	543.8	519.5	495.2	479.6
60°	626.0	610.4	594.7	579.0	563.3	543.7	520.0	496.3	472.7	449.0	433.6
62.5°	578.8	563.2	547.4	531.8	516.1	496.4	472.8	449.1	425.5	401.8	387.3
65°	506.7	491.1	475.3	459.7	444.0	425.1	402.8	380.6	358.4	336.1	322.2
67.5°	434.6	418.8	402.9	387.1	371.3	352.6	331.3	310.0	288.7	267.3	256.9
70°	387.4	372.0	356.7	341.2	325.8	308.2	288.2	268.2	248.3	228.4	218.4
72.5°	340.2	325.1	309.9	294.7	279.6	262.9	244.8	226.7	208.5	190.4	182.2
75°	268.2	254.4	240.7	227.1	213.4	198.7	183.0	167.3	151.7	136.0	133.1
77.5°	202.5	190.0	177.7	165.3	153.0	141.7	131.6	121.5	111.4	101.3	99.8
80°	160.3	148.6	137.0	125.3	113.6	104.8	98.8	92.7	86.8	80.8	79.9
82.5°	120.4	110.3	100.2	90.0	79.9	73.5	70.7	68.0	65.1	62.3	61.5
85°	68.0	61.7	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.7	22.3	20.0	17.6	15.3	14.1	14.3	14.5	14.7	15.0	14.8
90°	0.4	1.0	1.8	2.5	3.3	4.1	5.1	6.0	7.1	8.0	8.3
92.5°	6.2	6.0	5.7	5.6	5.4	5.7	6.3	7.1	7.8	8.5	9.0
95°	20.4	17.2	14.2	11.2	8.2	7.1	7.9	8.7	9.5	10.4	10.8
97.5°	40.8	39.5	38.1	36.8	35.3	32.0	26.7	21.4	16.0	10.7	11.3
100°	56.3	57.8	59.3	60.7	62.2	57.2	45.6	34.1	22.5	11.0	11.6
102.5°	73.9	74.9	76.0	77.1	78.1	72.4	59.8	47.1	34.5	22.0	20.1
105°	99.2	100.1	100.9	101.7	102.5	99.6	92.9	86.2	79.6	73.0	59.9
107.5°	126.0	126.7	127.3	128.0	128.7	129.5	130.5	131.6	132.6	133.7	124.0
110°	143.9	144.5	145.1	145.6	146.3	146.9	147.8	148.5	149.4	150.2	147.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	160.9	161.5	162.0	162.5	163.1	163.7	164.6	165.4	166.2	167.0	167.0
115°	186.2	186.6	187.1	187.5	187.9	188.5	189.2	189.8	190.5	191.1	191.9
117.5°	210.7	211.2	211.7	212.3	212.8	213.3	213.6	214.0	214.3	214.6	215.2
120°	225.8	226.5	227.2	227.8	228.5	228.9	229.1	229.4	229.6	229.8	230.5
122.5°	241.3	241.9	242.3	242.9	243.5	243.8	244.1	244.4	244.7	245.0	245.4
125°	262.5	263.1	263.6	264.2	264.9	265.2	265.6	265.9	266.2	266.5	266.6
127.5°	283.0	283.6	284.2	284.7	285.3	285.8	286.2	286.5	286.9	287.2	287.5
130°	295.8	296.3	296.9	297.6	298.1	298.6	298.9	299.2	299.4	299.7	300.0
132.5°	308.0	308.6	309.2	309.8	310.4	310.8	311.0	311.3	311.5	311.8	312.1
135°	326.8	327.2	327.6	328.1	328.5	328.9	329.1	329.5	329.8	330.1	330.3
137.5°	342.7	343.3	343.8	344.4	345.0	345.3	345.5	345.6	345.8	346.0	346.4
140°	353.4	353.8	354.3	354.7	355.2	355.5	355.7	355.9	356.2	356.4	356.7
142.5°	363.3	363.7	364.1	364.6	365.0	365.3	365.6	365.8	366.0	366.3	366.5
145°	377.0	377.6	378.1	378.6	379.1	379.5	379.6	379.8	379.8	380.0	380.2
147.5°	390.0	390.4	390.7	391.1	391.3	391.6	391.8	391.9	392.1	392.2	392.4
150°	398.0	398.2	398.4	398.7	398.9	399.1	399.3	399.4	399.5	399.6	399.8
152.5°	405.2	405.3	405.4	405.5	405.6	405.8	405.8	405.9	406.0	406.0	406.3
155°	415.4	415.2	415.0	414.9	414.7	414.7	414.8	414.8	414.9	415.0	415.4
157.5°	423.2	423.2	423.2	423.1	423.1	423.1	423.0	422.9	422.8	422.8	423.2
160°	428.0	427.9	427.8	427.7	427.7	427.6	427.5	427.4	427.4	427.3	427.7
162.5°	432.5	432.3	432.2	432.0	431.8	431.6	431.5	431.5	431.4	431.3	431.8
165°	438.0	437.7	437.5	437.3	437.1	437.0	436.9	436.8	436.7	436.7	437.2
167.5°	442.2	442.0	441.7	441.4	441.0	440.9	440.9	440.9	440.9	440.9	441.5
170°	444.6	444.3	444.0	443.7	443.5	443.3	443.3	443.3	443.3	443.3	443.9
172.5°	446.2	445.9	445.5	445.2	444.8	444.7	444.7	444.8	444.9	444.9	445.5
175°	448.3	447.9	447.5	447.2	446.9	446.7	446.8	446.9	446.9	447.0	447.5
177.5°	448.8	448.6	448.3	448.0	447.6	447.5	447.6	447.6	447.7	447.8	448.3
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1575.5	1578.0	1580.5	1581.5	1581.0	1580.6	1580.2	1579.7
5°	1565.1	1567.6	1570.2	1571.2	1570.7	1570.1	1569.5	1569.0
7.5°	1543.0	1544.5	1545.9	1546.1	1545.1	1544.2	1543.2	1542.2
10°	1523.3	1523.6	1523.9	1523.3	1521.8	1520.4	1519.0	1517.6
12.5°	1498.7	1498.6	1498.5	1497.5	1495.9	1494.2	1492.6	1490.9
15°	1455.8	1454.3	1452.9	1451.1	1449.2	1447.2	1445.2	1443.2
17.5°	1404.3	1401.3	1398.3	1395.2	1392.3	1389.3	1386.4	1383.4
20°	1369.0	1365.4	1361.7	1358.1	1354.7	1351.2	1347.8	1344.4
22.5°	1331.3	1326.7	1322.1	1318.1	1315.0	1311.8	1308.6	1305.4
25°	1269.6	1263.6	1257.6	1253.0	1249.9	1246.8	1243.7	1240.5
27.5°	1202.3	1194.0	1185.6	1179.1	1174.3	1169.5	1164.7	1160.0
30°	1154.4	1144.7	1135.0	1127.9	1123.3	1118.8	1114.2	1109.7
32.5°	1107.4	1096.8	1086.2	1078.6	1073.7	1068.9	1064.1	1059.3
35°	1037.6	1025.4	1013.1	1004.5	999.4	994.2	989.1	983.9
37.5°	962.8	948.9	935.0	924.8	918.5	912.2	905.9	899.6
40°	910.7	895.9	881.0	870.3	863.7	857.2	850.6	844.1
42.5°	860.7	844.5	828.3	817.3	811.4	805.6	799.7	793.8
45°	787.2	771.0	754.7	743.2	736.3	729.5	722.6	715.9
47.5°	711.2	693.6	675.9	664.0	657.9	651.9	645.7	639.6
50°	660.0	642.2	624.6	612.5	606.0	599.4	592.9	586.3
52.5°	610.4	592.0	573.6	561.5	555.6	549.8	543.9	538.0
55°	536.5	520.0	503.4	492.3	486.6	480.9	475.2	469.5
57.5°	463.9	448.3	432.7	422.4	417.6	412.7	407.9	403.0
60°	418.2	402.8	387.4	377.3	372.5	367.6	362.8	357.9
62.5°	372.8	358.4	343.8	334.0	329.0	324.0	318.9	313.8
65°	308.2	294.2	280.2	271.6	268.5	265.4	262.3	259.1
67.5°	246.5	236.0	225.6	218.7	215.4	212.0	208.6	205.3
70°	208.4	198.4	188.4	181.9	178.7	175.6	172.5	169.4
72.5°	174.1	165.9	157.8	153.1	151.7	150.4	149.1	147.8
75°	130.3	127.4	124.6	122.9	122.3	121.7	121.1	120.6
77.5°	98.3	96.7	95.2	94.2	93.6	93.0	92.5	91.9
80°	79.1	78.2	77.4	76.7	76.2	75.6	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.2	58.1	58.0
85°	34.8	34.2	33.6	33.4	33.4	33.4	33.4	33.4
87.5°	14.6	14.4	14.2	14.0	13.9	13.7	13.5	13.3
90°	8.6	8.9	9.1	9.4	9.5	9.7	9.8	10.0
92.5°	9.5	10.0	10.5	10.7	10.7	10.8	10.9	11.0
95°	11.4	11.9	12.4	12.6	12.6	12.6	12.6	12.6
97.5°	11.9	12.5	13.1	13.4	13.5	13.6	13.7	13.8
100°	12.2	12.7	13.4	13.7	13.8	13.9	13.9	13.9
102.5°	18.3	16.4	14.6	13.8	13.9	13.9	14.1	14.2
105°	46.8	33.6	20.5	14.0	14.2	14.3	14.5	14.6
107.5°	114.5	104.9	95.3	85.5	75.7	65.8	55.9	46.0
110°	145.3	142.9	140.4	133.9	123.4	112.7	102.2	91.6



TEST NUMBER: P332333-830

CATALOG NUMBER: S123RDIP-S1000D365U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	167.1	167.1	167.2	166.1	163.8	161.6	159.4	157.1
115°	192.7	193.4	194.2	194.6	194.9	195.3	195.6	195.9
117.5°	215.8	216.4	217.0	217.4	217.4	217.4	217.5	217.5
120°	231.0	231.6	232.1	232.5	232.5	232.5	232.5	232.5
122.5°	245.8	246.3	246.7	246.9	246.9	247.0	247.0	247.1
125°	266.7	266.9	267.0	267.2	267.3	267.5	267.7	267.8
127.5°	287.7	287.9	288.2	288.2	288.0	287.9	287.8	287.7
130°	300.4	300.7	301.0	301.0	300.9	300.8	300.6	300.4
132.5°	312.4	312.6	312.9	313.0	312.7	312.5	312.4	312.2
135°	330.5	330.7	330.9	330.9	330.7	330.5	330.3	330.1
137.5°	346.7	347.0	347.4	347.5	347.3	347.2	347.0	346.9
140°	356.9	357.2	357.6	357.6	357.5	357.3	357.2	357.0
142.5°	366.7	366.9	367.2	367.2	367.0	366.7	366.6	366.4
145°	380.3	380.5	380.6	380.7	380.7	380.7	380.7	380.7
147.5°	392.5	392.7	392.9	392.8	392.4	392.0	391.7	391.3
150°	400.0	400.1	400.3	400.2	400.0	399.8	399.5	399.4
152.5°	406.6	406.9	407.2	407.1	406.8	406.4	406.0	405.8
155°	415.8	416.1	416.5	416.4	416.0	415.6	415.1	414.6
157.5°	423.7	424.1	424.6	424.5	424.0	423.4	422.7	422.2
160°	428.2	428.7	429.1	429.0	428.6	428.0	427.5	427.0
162.5°	432.3	432.8	433.3	433.4	432.9	432.4	432.0	431.5
165°	437.8	438.5	439.0	439.0	438.6	438.0	437.5	437.0
167.5°	442.1	442.7	443.3	443.3	442.7	442.1	441.5	440.9
170°	444.5	445.1	445.6	445.6	445.1	444.5	443.9	443.3
172.5°	446.1	446.7	447.2	447.2	446.6	445.9	445.3	444.6
175°	448.0	448.6	449.0	449.0	448.5	447.8	447.2	446.7
177.5°	448.7	449.2	449.7	449.6	449.0	448.5	447.8	447.2
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3

(END OF REPORT)