

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: P332363-927

Luminaire Tested: **S123RDIP-S1165D365U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332363-927
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-S1165D365U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 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: 4618.7 lumens
Efficiency: N/A
Efficacy: 92.7 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

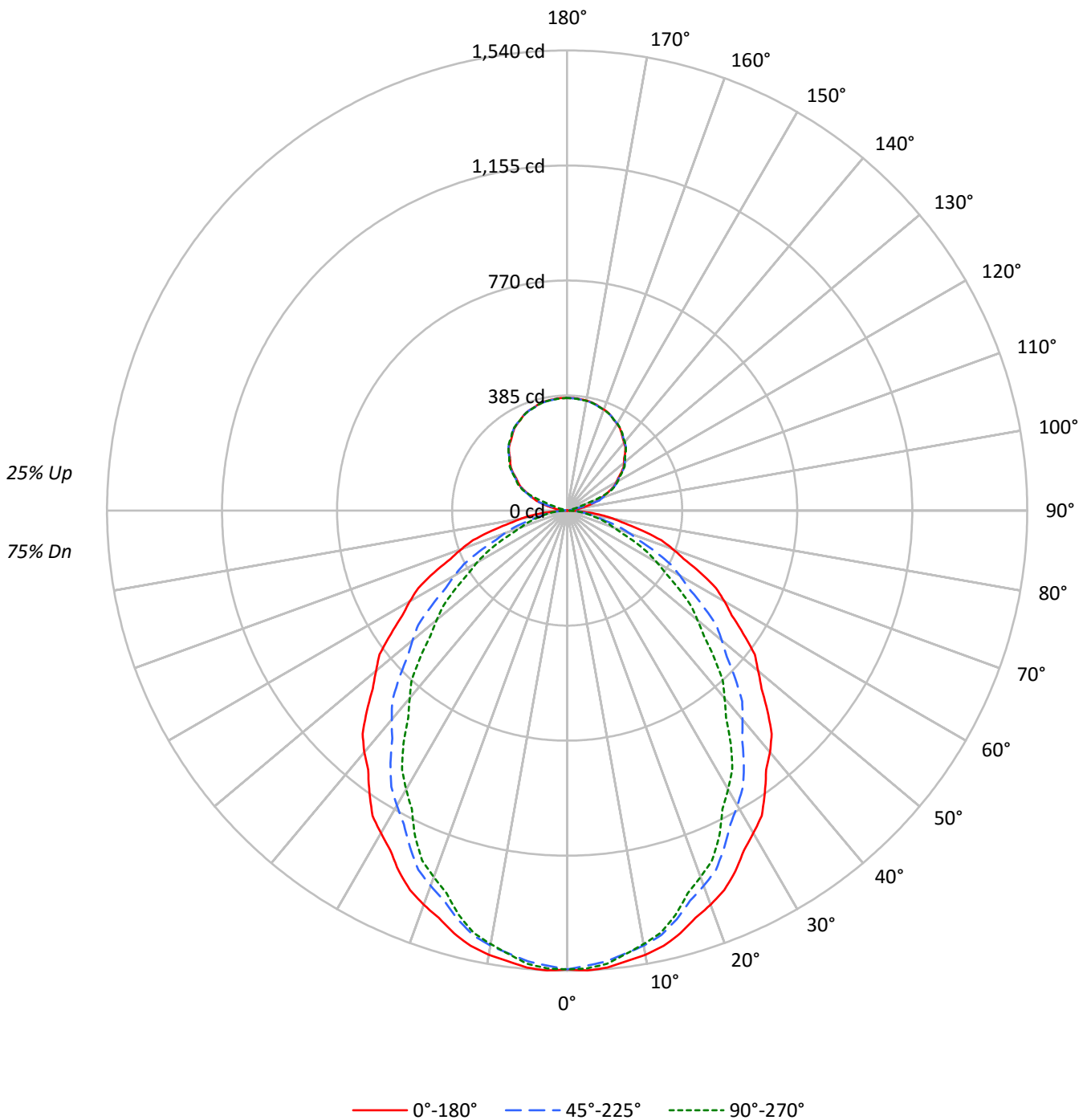
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	113	113	113	113	108	108	108	108	97	97	97	88	88	88	79	79	79	75
1	104	100	96	92	99	95	92	88	86	84	81	78	76	74	71	69	68	64
2	95	88	81	76	90	84	78	73	76	72	68	69	66	63	63	60	58	55
3	87	77	70	64	83	74	67	62	68	62	58	62	57	54	56	53	50	47
4	80	69	61	55	76	66	59	53	60	55	50	55	50	47	51	47	43	41
5	74	62	54	47	70	59	52	46	54	48	43	50	45	41	46	42	38	35
6	68	56	48	42	65	54	46	40	49	43	38	45	40	36	42	37	34	31
7	63	51	43	37	60	49	41	36	45	39	34	41	36	32	38	34	30	28
8	59	46	38	33	56	45	37	32	41	35	30	38	33	29	35	31	27	25
9	55	42	35	30	52	41	34	29	38	32	27	35	30	26	33	28	25	23
10	52	39	32	27	49	38	31	26	35	29	25	33	27	24	30	26	23	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16527	16527	16527
5°	16590	16361	16455
10°	16497	16156	16101
15°	16319	15778	15611
20°	16076	15306	14948
25°	15824	14775	14301
30°	15493	14162	13387
35°	15152	13548	12550
40°	14838	12826	11514
45°	14425	12113	10577
50°	13971	11302	9530
55°	13508	10376	8552
60°	13082	9384	7481
65°	12528	8308	6406
70°	11833	6977	5174
75°	10821	5490	4870
80°	9651	4860	4475
85°	8151	4310	4001



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.2	3.1
10°-20°	401.2	8.7
20°-30°	577.6	12.5
30°-40°	650.7	14.1
40°-50°	622.5	13.5
50°-60°	509.7	11.0
60°-70°	343.9	7.4
70°-80°	173.0	3.7
80°-90°	46.8	1.0
90°-100°	13.7	0.3
100°-110°	65.3	1.4
110°-120°	156.8	3.4
120°-130°	199.7	4.3
130°-140°	213.4	4.6
140°-150°	199.5	4.3
150°-160°	160.9	3.5
160°-170°	103.9	2.2
170°-180°	35.8	0.8
0°-30°	1123.0	24.3
0°-40°	1773.6	38.4
0°-60°	2905.8	62.9
0°-90°	3469.6	75.1
90°-120°	235.8	5.1
90°-150°	848.4	18.4
90°-180°	1149.0	24.9
0°-180°	4618.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1535	1535	1535	1535	1535	
5°	1535	1529	1514	1525	1523	146
15°	1464	1450	1416	1410	1401	412
25°	1332	1300	1244	1219	1204	613
35°	1153	1106	1031	979	955	721
45°	948	889	796	727	695	731
55°	720	656	553	483	456	645
65°	492	422	326	268	252	487
75°	260	200	132	120	117	278
85°	66	40	35	32	32	74
90°	0	3	7	8	8	4
95°	17	6	9	11	11	21
105°	83	85	61	15	12	88
115°	156	158	161	163	165	154
125°	221	223	224	224	225	197
135°	275	276	277	278	277	211
145°	317	319	319	320	320	198
155°	349	349	349	350	348	161
165°	368	367	367	369	367	104
175°	377	376	376	377	375	36
180°	377	377	377	377	377	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4
2.5°	1540.4	1539.4	1538.6	1537.7	1536.8	1535.0	1532.4	1529.7	1527.1	1524.4	1526.9
5°	1535.4	1534.0	1532.6	1531.2	1529.9	1527.5	1524.2	1520.8	1517.5	1514.2	1516.7
7.5°	1521.1	1519.7	1518.2	1516.7	1515.2	1512.3	1508.0	1503.6	1499.4	1495.0	1496.4
10°	1509.3	1507.3	1505.4	1503.4	1501.5	1498.0	1493.0	1488.0	1483.0	1478.1	1478.4
12.5°	1492.3	1490.2	1488.0	1485.8	1483.7	1479.6	1473.5	1467.4	1461.3	1455.2	1455.0
15°	1464.4	1461.3	1458.3	1455.2	1452.2	1446.8	1439.1	1431.3	1423.6	1415.9	1414.4
17.5°	1429.3	1425.8	1422.2	1418.6	1415.2	1408.4	1398.6	1388.7	1378.9	1369.0	1366.1
20°	1403.4	1399.0	1394.6	1390.1	1385.7	1378.2	1367.7	1357.2	1346.6	1336.2	1332.5
22.5°	1374.5	1369.4	1364.3	1359.2	1354.2	1346.0	1334.8	1323.7	1312.5	1301.2	1296.8
25°	1332.4	1325.5	1318.6	1311.6	1304.7	1294.9	1282.1	1269.5	1256.7	1244.0	1238.2
27.5°	1281.4	1273.7	1266.1	1258.5	1250.8	1239.9	1225.7	1211.6	1197.4	1183.2	1175.1
30°	1246.5	1238.2	1229.9	1221.5	1213.3	1201.3	1185.9	1170.4	1154.9	1139.4	1130.0
32.5°	1211.6	1202.2	1192.8	1183.4	1174.0	1161.1	1144.7	1128.3	1111.9	1095.6	1085.3
35°	1153.1	1143.1	1133.1	1123.2	1113.3	1099.7	1082.5	1065.4	1048.2	1031.0	1019.1
37.5°	1093.8	1082.8	1071.7	1060.6	1049.6	1034.8	1016.5	998.2	979.9	961.6	948.1
40°	1056.0	1043.8	1031.6	1019.5	1007.3	991.3	971.7	952.0	932.4	912.8	898.3
42.5°	1013.1	1000.9	988.8	976.6	964.4	948.2	927.9	907.5	887.2	867.0	851.2
45°	947.6	935.2	922.7	910.3	897.8	880.9	859.6	838.3	817.0	795.7	779.9
47.5°	882.1	868.5	854.8	841.1	827.4	809.9	788.6	767.3	746.0	724.8	707.6
50°	834.3	821.3	808.3	795.3	782.3	764.6	742.2	719.8	697.4	674.9	657.7
52.5°	791.5	777.4	763.3	749.2	735.0	716.8	694.7	672.5	650.3	628.1	610.3
55°	719.8	706.2	692.6	679.1	665.5	647.0	623.4	599.9	576.4	552.9	536.9
57.5°	653.5	638.7	623.9	609.2	594.4	575.2	551.6	527.9	504.3	480.7	465.5
60°	607.7	592.5	577.3	562.1	546.8	527.7	504.7	481.8	458.8	435.9	420.9
62.5°	561.8	546.6	531.4	516.2	501.0	481.9	458.9	435.9	413.0	390.0	376.0
65°	491.9	476.7	461.4	446.2	431.0	412.6	391.0	369.4	347.8	326.2	312.7
67.5°	421.9	406.5	391.1	375.7	360.4	342.3	321.6	300.9	280.2	259.5	249.4
70°	376.0	361.2	346.2	331.2	316.3	299.1	279.8	260.4	241.1	221.7	212.0
72.5°	330.3	315.5	300.8	286.1	271.3	255.2	237.6	220.0	202.4	184.8	176.9
75°	260.2	247.0	233.7	220.4	207.2	192.9	177.7	162.4	147.2	132.0	129.2
77.5°	196.5	184.5	172.5	160.5	148.5	137.5	127.8	118.0	108.1	98.4	96.9
80°	155.7	144.3	132.9	121.6	110.3	101.7	95.9	90.1	84.3	78.4	77.6
82.5°	116.8	107.0	97.2	87.4	77.6	71.4	68.7	65.9	63.2	60.5	59.7
85°	66.0	59.9	53.8	47.8	41.7	38.2	37.4	36.5	35.7	34.9	34.3
87.5°	24.0	21.6	19.3	17.0	14.7	13.6	13.8	13.9	14.1	14.3	14.1
90°	0.3	0.9	1.5	2.1	2.8	3.5	4.3	5.1	5.9	6.7	7.0
92.5°	5.2	5.1	4.8	4.7	4.5	4.8	5.3	5.9	6.6	7.1	7.5
95°	17.1	14.5	12.0	9.4	6.9	5.9	6.7	7.3	8.0	8.7	9.1
97.5°	34.3	33.2	32.0	30.9	29.7	26.9	22.4	18.0	13.5	9.0	9.5
100°	47.3	48.6	49.8	51.0	52.3	48.1	38.3	28.7	18.9	9.3	9.7
102.5°	62.1	63.0	63.8	64.8	65.7	60.8	50.2	39.6	29.0	18.5	16.9
105°	83.4	84.1	84.8	85.5	86.2	83.7	78.1	72.5	66.9	61.3	50.3
107.5°	105.9	106.5	107.0	107.6	108.1	108.8	109.7	110.6	111.5	112.3	104.3
110°	121.0	121.4	121.9	122.4	122.9	123.5	124.2	124.8	125.6	126.3	124.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	135.2	135.7	136.2	136.6	137.0	137.6	138.3	139.0	139.7	140.4	140.4
115°	156.5	156.9	157.2	157.6	158.0	158.4	159.0	159.5	160.1	160.7	161.3
117.5°	177.1	177.5	177.9	178.4	178.9	179.3	179.5	179.8	180.1	180.4	180.9
120°	189.8	190.4	190.9	191.5	192.0	192.4	192.6	192.8	193.0	193.1	193.7
122.5°	202.8	203.3	203.7	204.1	204.6	204.9	205.2	205.4	205.7	205.9	206.3
125°	220.6	221.1	221.6	222.0	222.6	222.9	223.2	223.5	223.7	223.9	224.1
127.5°	237.8	238.4	238.8	239.3	239.8	240.2	240.5	240.8	241.1	241.4	241.6
130°	248.6	249.1	249.5	250.1	250.6	251.0	251.2	251.4	251.7	251.9	252.2
132.5°	258.9	259.4	259.9	260.4	260.9	261.2	261.4	261.7	261.8	262.1	262.3
135°	274.6	275.0	275.4	275.8	276.1	276.4	276.6	276.9	277.2	277.4	277.6
137.5°	288.0	288.5	289.0	289.5	289.9	290.3	290.4	290.5	290.7	290.8	291.1
140°	297.0	297.4	297.8	298.1	298.5	298.8	299.0	299.1	299.4	299.5	299.8
142.5°	305.3	305.7	306.0	306.4	306.8	307.0	307.3	307.4	307.6	307.8	308.0
145°	316.9	317.3	317.7	318.2	318.6	318.9	319.0	319.2	319.2	319.4	319.6
147.5°	327.8	328.1	328.4	328.7	328.9	329.2	329.3	329.4	329.5	329.6	329.8
150°	334.5	334.7	334.9	335.1	335.3	335.4	335.6	335.6	335.8	335.9	336.0
152.5°	340.6	340.6	340.7	340.8	340.9	341.0	341.0	341.1	341.2	341.3	341.5
155°	349.1	349.0	348.8	348.7	348.6	348.6	348.6	348.6	348.7	348.8	349.1
157.5°	355.7	355.7	355.7	355.6	355.6	355.6	355.5	355.5	355.4	355.4	355.7
160°	359.7	359.7	359.6	359.5	359.5	359.4	359.3	359.3	359.3	359.2	359.5
162.5°	363.5	363.4	363.2	363.1	362.9	362.7	362.7	362.7	362.6	362.5	362.9
165°	368.1	367.9	367.7	367.6	367.3	367.3	367.2	367.1	367.0	367.0	367.5
167.5°	371.7	371.5	371.2	371.0	370.7	370.6	370.6	370.6	370.6	370.6	371.1
170°	373.7	373.4	373.2	373.0	372.7	372.6	372.6	372.6	372.6	372.6	373.1
172.5°	375.0	374.8	374.5	374.1	373.8	373.8	373.8	373.8	373.9	373.9	374.5
175°	376.8	376.4	376.1	375.9	375.6	375.4	375.5	375.6	375.6	375.7	376.1
177.5°	377.2	377.0	376.8	376.5	376.2	376.1	376.2	376.2	376.3	376.4	376.8
180°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4	1535.4
2.5°	1529.3	1531.8	1534.1	1535.2	1534.7	1534.3	1533.8	1533.3
5°	1519.2	1521.7	1524.2	1525.1	1524.6	1524.0	1523.4	1522.9
7.5°	1497.8	1499.2	1500.6	1500.8	1499.8	1498.9	1497.9	1497.0
10°	1478.7	1478.9	1479.2	1478.7	1477.3	1475.9	1474.5	1473.1
12.5°	1454.8	1454.7	1454.5	1453.7	1452.1	1450.4	1448.8	1447.2
15°	1413.1	1411.7	1410.3	1408.7	1406.7	1404.8	1402.8	1400.9
17.5°	1363.2	1360.2	1357.2	1354.4	1351.5	1348.6	1345.8	1342.8
20°	1329.0	1325.3	1321.8	1318.3	1314.9	1311.6	1308.4	1305.0
22.5°	1292.3	1287.9	1283.3	1279.5	1276.4	1273.4	1270.3	1267.2
25°	1232.4	1226.5	1220.8	1216.3	1213.3	1210.2	1207.2	1204.1
27.5°	1167.0	1159.0	1150.9	1144.5	1139.9	1135.3	1130.6	1125.9
30°	1120.5	1111.2	1101.8	1094.9	1090.4	1086.0	1081.6	1077.1
32.5°	1075.0	1064.7	1054.4	1046.9	1042.3	1037.6	1033.0	1028.3
35°	1007.3	995.4	983.5	975.0	970.0	965.0	960.0	955.1
37.5°	934.5	921.1	907.5	897.7	891.6	885.4	879.3	873.1
40°	884.0	869.6	855.2	844.9	838.4	832.1	825.8	819.4
42.5°	835.5	819.8	804.1	793.4	787.7	782.0	776.3	770.6
45°	764.1	748.4	732.6	721.4	714.8	708.1	701.5	694.8
47.5°	690.4	673.3	656.1	644.6	638.7	632.7	626.8	620.9
50°	640.6	623.4	606.3	594.5	588.2	581.8	575.4	569.1
52.5°	592.5	574.6	556.8	545.0	539.3	533.7	528.0	522.3
55°	520.8	504.7	488.7	477.9	472.4	466.8	461.3	455.7
57.5°	450.4	435.1	420.0	410.0	405.4	400.7	395.9	391.3
60°	405.9	391.0	376.0	366.2	361.6	356.8	352.1	347.5
62.5°	361.9	347.8	333.7	324.3	319.3	314.4	309.5	304.6
65°	299.1	285.6	272.0	263.7	260.7	257.6	254.6	251.5
67.5°	239.2	229.1	219.0	212.3	209.1	205.7	202.5	199.2
70°	202.2	192.6	182.9	176.6	173.5	170.5	167.4	164.4
72.5°	169.0	161.1	153.1	148.5	147.3	146.0	144.7	143.5
75°	126.4	123.7	120.9	119.3	118.7	118.2	117.6	117.1
77.5°	95.4	93.9	92.4	91.3	90.8	90.2	89.7	89.1
80°	76.8	76.0	75.1	74.5	73.9	73.4	72.8	72.2
82.5°	58.9	58.1	57.2	56.7	56.6	56.5	56.4	56.3
85°	33.7	33.2	32.6	32.4	32.4	32.4	32.4	32.4
87.5°	13.9	13.8	13.6	13.4	13.2	13.0	12.8	12.7
90°	7.2	7.4	7.7	7.9	8.0	8.2	8.2	8.4
92.5°	8.0	8.4	8.8	9.0	9.0	9.1	9.2	9.3
95°	9.6	10.0	10.5	10.6	10.6	10.6	10.6	10.6
97.5°	10.0	10.5	11.0	11.2	11.3	11.4	11.5	11.6
100°	10.2	10.7	11.2	11.5	11.6	11.6	11.7	11.7
102.5°	15.4	13.8	12.3	11.6	11.6	11.7	11.9	12.0
105°	39.3	28.3	17.3	11.8	12.0	12.0	12.2	12.3
107.5°	96.3	88.2	80.1	71.9	63.6	55.3	47.0	38.7
110°	122.2	120.1	118.0	112.6	103.7	94.7	85.9	77.0



TEST NUMBER: P332363-927

CATALOG NUMBER: S123RDIP-S1165D365U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	140.5	140.5	140.5	139.6	137.7	135.9	134.0	132.1
115°	161.9	162.6	163.2	163.6	163.8	164.1	164.4	164.6
117.5°	181.4	181.9	182.4	182.7	182.7	182.8	182.8	182.8
120°	194.2	194.6	195.1	195.4	195.4	195.4	195.4	195.4
122.5°	206.6	207.0	207.3	207.5	207.6	207.6	207.6	207.7
125°	224.2	224.3	224.4	224.6	224.7	224.8	225.0	225.1
127.5°	241.8	242.0	242.2	242.2	242.1	242.0	241.9	241.8
130°	252.5	252.7	252.9	253.0	252.9	252.8	252.6	252.5
132.5°	262.5	262.8	263.0	263.1	262.8	262.7	262.5	262.4
135°	277.8	278.0	278.1	278.1	278.0	277.8	277.6	277.4
137.5°	291.4	291.7	292.0	292.1	291.9	291.8	291.7	291.6
140°	300.0	300.2	300.6	300.6	300.5	300.3	300.2	300.1
142.5°	308.2	308.4	308.6	308.6	308.5	308.2	308.1	307.9
145°	319.6	319.8	319.9	320.0	320.0	320.0	320.0	320.0
147.5°	329.9	330.0	330.2	330.1	329.8	329.5	329.2	328.9
150°	336.2	336.3	336.4	336.4	336.2	336.0	335.8	335.6
152.5°	341.7	342.0	342.2	342.1	341.9	341.6	341.3	341.0
155°	349.4	349.7	350.1	350.0	349.7	349.3	348.9	348.5
157.5°	356.1	356.5	356.9	356.8	356.3	355.8	355.3	354.8
160°	359.9	360.3	360.7	360.6	360.2	359.7	359.3	358.9
162.5°	363.4	363.8	364.2	364.2	363.8	363.5	363.1	362.7
165°	368.0	368.5	369.0	369.0	368.6	368.1	367.7	367.3
167.5°	371.5	372.1	372.6	372.6	372.1	371.5	371.1	370.6
170°	373.6	374.1	374.5	374.5	374.1	373.6	373.1	372.6
172.5°	374.9	375.4	375.9	375.9	375.3	374.8	374.2	373.7
175°	376.5	377.0	377.4	377.4	376.9	376.4	375.9	375.4
177.5°	377.2	377.6	378.0	377.9	377.4	376.9	376.4	375.9
180°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8

(END OF REPORT)