

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: P332988-927

Luminaire Tested: **SA4XXRDIP-C1195D365U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332988-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXRDIP-C1195D365U927-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

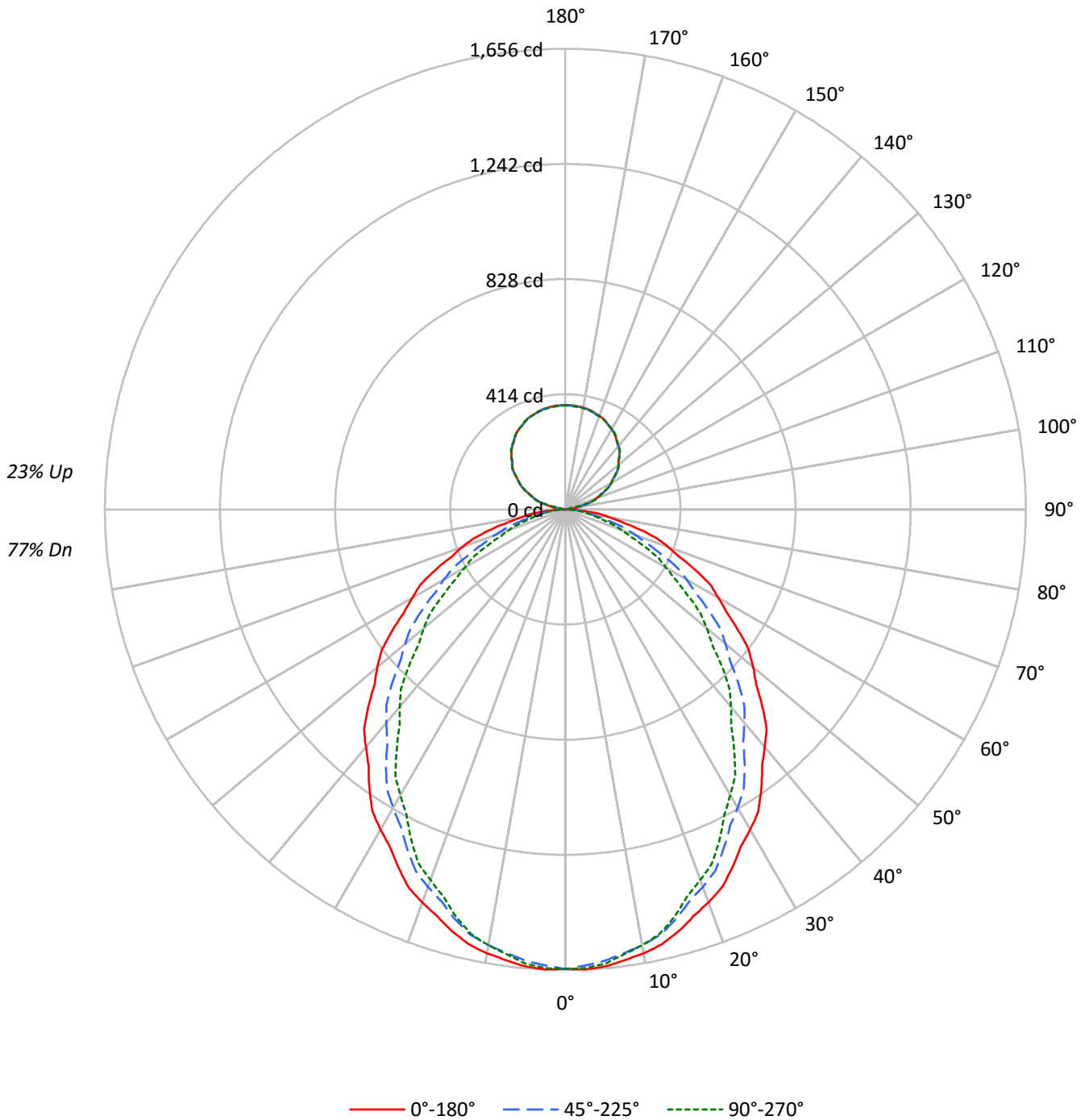
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4975.9 lumens  
Efficiency: N/A  
Efficacy: 99.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' 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	108	108	108	108	98	98	98	89	89	89	81	81	81	77
1	104	100	96	92	99	95	92	89	87	84	82	79	77	75	72	70	69	66
2	95	88	82	76	91	84	78	74	77	72	68	70	67	63	64	61	59	56
3	87	78	70	64	83	74	67	62	68	63	58	62	58	54	57	53	50	47
4	80	69	61	55	76	66	59	53	61	55	50	56	51	47	51	47	44	41
5	74	62	53	47	70	59	52	46	55	48	43	50	45	41	46	42	38	36
6	68	56	47	41	65	54	46	40	50	43	38	46	40	36	42	38	34	32
7	63	51	42	37	60	49	41	36	45	39	34	42	36	32	39	34	30	28
8	59	46	38	33	56	45	37	32	41	35	30	38	33	29	36	31	27	25
9	55	42	35	29	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	28	24	31	26	23	21

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

	0°	45°	90°
0°	13337	13337	13337
5°	13367	13203	13285
10°	13283	13045	13045
15°	13131	12771	12676
20°	12921	12411	12182
25°	12653	11989	11685
30°	12393	11544	11060
35°	12105	11083	10435
40°	11758	10559	9759
45°	11439	10038	9070
50°	11074	9437	8341
55°	10683	8812	7548
60°	10253	8128	6739
65°	9859	7272	5945
70°	9286	6331	5046
75°	8562	5250	4105
80°	7471	3998	3766
85°	6326	3631	3399



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.2	3.1
10°-20°	432.8	8.7
20°-30°	624.9	12.6
30°-40°	708.3	14.2
40°-50°	684.0	13.7
50°-60°	568.8	11.4
60°-70°	392.8	7.9
70°-80°	199.1	4.0
80°-90°	52.2	1.0
90°-100°	12.8	0.3
100°-110°	81.6	1.6
110°-120°	156.1	3.1
120°-130°	198.2	4.0
130°-140°	212.1	4.3
140°-150°	198.3	4.0
150°-160°	159.9	3.2
160°-170°	103.2	2.1
170°-180°	35.6	0.7
0°-30°	1212.9	24.4
0°-40°	1921.2	38.6
0°-60°	3174.0	63.8
0°-90°	3818.0	76.7
90°-120°	250.6	5.0
90°-150°	859.2	17.3
90°-180°	1158.0	23.3
0°-180°	4975.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1652	1652	1652	1652	1652	
5°	1650	1644	1629	1641	1639	156
15°	1571	1559	1528	1525	1517	442
25°	1420	1396	1346	1325	1312	654
35°	1228	1186	1125	1083	1059	767
45°	1002	953	879	819	794	772
55°	759	707	626	563	536	679
65°	516	460	381	328	311	509
75°	274	227	168	140	132	290
85°	68	44	39	37	37	77
90°	1	4	6	8	8	4
95°	15	6	6	8	8	20
105°	84	86	87	89	80	88
115°	157	158	158	158	158	155
125°	221	222	222	222	223	197
135°	274	274	275	276	276	211
145°	316	317	317	317	318	198
155°	347	347	346	347	347	160
165°	366	365	364	366	364	103
175°	374	373	373	375	372	36
180°	374	374	374	374	374	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0
2.5°	1656.1	1655.2	1654.3	1653.4	1652.5	1650.8	1648.4	1645.8	1643.4	1640.9	1643.4
5°	1649.5	1648.4	1647.3	1646.2	1645.0	1642.7	1639.4	1636.0	1632.7	1629.3	1632.1
7.5°	1634.6	1633.4	1632.2	1631.0	1629.8	1627.1	1622.7	1618.3	1613.9	1609.6	1611.4
10°	1620.4	1619.0	1617.6	1616.2	1614.8	1611.5	1606.5	1601.5	1596.4	1591.3	1592.4
12.5°	1602.2	1600.6	1598.9	1597.3	1595.7	1591.9	1585.9	1580.0	1574.0	1568.0	1568.8
15°	1571.1	1568.5	1566.1	1563.5	1561.0	1556.2	1549.2	1542.1	1535.1	1528.0	1527.5
17.5°	1533.4	1529.7	1526.1	1522.4	1518.8	1512.8	1504.3	1495.9	1487.4	1479.0	1477.4
20°	1504.0	1500.4	1496.7	1493.1	1489.5	1482.8	1473.3	1463.7	1454.1	1444.6	1442.3
22.5°	1471.6	1467.6	1463.5	1459.4	1455.2	1448.1	1437.8	1427.6	1417.4	1407.2	1403.7
25°	1420.5	1415.5	1410.4	1405.4	1400.3	1392.0	1380.5	1369.0	1357.5	1345.9	1341.2
27.5°	1366.9	1360.6	1354.2	1347.9	1341.5	1332.2	1319.9	1307.6	1295.2	1282.9	1277.0
30°	1329.5	1322.5	1315.4	1308.4	1301.4	1291.3	1278.0	1264.8	1251.6	1238.4	1231.4
32.5°	1290.0	1282.1	1274.1	1266.2	1258.3	1247.5	1233.8	1220.2	1206.5	1192.9	1184.7
35°	1228.3	1219.2	1210.3	1201.3	1192.3	1180.7	1166.7	1152.7	1138.6	1124.6	1115.0
37.5°	1162.3	1152.9	1143.7	1134.4	1125.1	1112.7	1097.2	1081.6	1066.0	1050.4	1039.7
40°	1115.7	1106.4	1097.2	1087.9	1078.6	1066.0	1050.0	1033.9	1017.9	1001.9	990.1
42.5°	1071.2	1061.4	1051.7	1042.0	1032.3	1019.1	1002.3	985.6	969.0	952.3	940.2
45°	1001.9	991.4	981.0	970.7	960.3	946.6	929.8	912.9	896.0	879.2	865.4
47.5°	930.3	919.5	908.8	898.0	887.3	873.1	855.6	838.0	820.5	803.0	788.7
50°	881.7	870.7	859.8	848.8	837.8	823.3	805.3	787.3	769.4	751.4	737.4
52.5°	832.1	821.3	810.6	799.9	789.2	774.5	756.1	737.7	719.2	700.8	686.5
55°	759.0	747.7	736.5	725.2	714.0	699.3	681.0	662.7	644.4	626.1	611.6
57.5°	686.6	674.9	663.2	651.6	639.8	625.0	607.0	589.0	571.0	553.0	538.2
60°	635.0	623.8	612.5	601.3	590.0	575.4	557.5	539.5	521.4	503.4	488.9
62.5°	588.4	576.8	565.1	553.4	541.7	526.6	508.2	489.7	471.3	452.9	439.3
65°	516.1	504.0	491.9	479.8	467.8	452.7	434.7	416.8	398.8	380.7	368.7
67.5°	440.9	429.4	417.8	406.2	394.7	380.5	363.8	347.1	330.4	313.7	303.3
70°	393.4	381.6	369.8	358.0	346.2	332.2	316.2	300.2	284.2	268.2	258.9
72.5°	342.8	332.2	321.5	310.8	300.1	287.2	272.0	256.9	241.8	226.6	218.7
75°	274.5	264.1	253.7	243.3	232.9	221.1	207.9	194.6	181.5	168.3	161.8
77.5°	205.2	196.4	187.5	178.7	169.8	160.1	149.4	138.8	128.1	117.4	113.6
80°	160.7	152.5	144.3	136.2	128.0	119.8	111.3	102.9	94.4	86.0	85.2
82.5°	122.2	114.7	107.3	99.7	92.3	86.1	81.3	76.4	71.6	66.8	66.1
85°	68.3	62.7	57.0	51.4	45.8	42.6	41.7	40.9	40.1	39.2	38.7
87.5°	23.4	21.8	20.1	18.5	16.8	15.9	15.8	15.7	15.5	15.4	15.2
90°	0.9	1.5	2.2	2.9	3.6	4.2	4.7	5.1	5.6	6.2	6.5
92.5°	3.6	3.6	3.6	3.6	3.6	4.0	4.4	4.9	5.5	5.9	6.3
95°	15.4	13.3	11.2	9.0	7.0	5.9	5.9	6.0	6.1	6.2	6.5
97.5°	32.7	34.0	35.3	36.7	37.9	35.2	28.2	21.3	14.3	7.4	7.4
100°	45.9	47.1	48.2	49.3	50.4	46.7	38.1	29.5	20.9	12.4	11.2
102.5°	60.7	61.6	62.3	63.1	64.0	63.8	62.7	61.6	60.4	59.3	47.9
105°	84.3	84.6	85.0	85.4	85.8	86.1	86.4	86.7	87.1	87.4	87.9
107.5°	106.2	106.3	106.5	106.7	106.9	107.2	107.7	108.1	108.4	108.9	109.2
110°	121.0	121.1	121.3	121.5	121.7	122.0	122.3	122.7	123.1	123.5	123.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	135.3	135.6	135.9	136.3	136.7	136.9	137.0	137.2	137.4	137.6	137.5
115°	157.3	157.6	157.7	157.9	158.1	158.1	158.1	158.0	158.0	157.9	158.0
117.5°	177.2	177.4	177.7	178.0	178.2	178.4	178.6	178.7	178.8	179.0	179.0
120°	190.7	190.9	191.2	191.4	191.6	191.7	191.7	191.6	191.5	191.5	191.6
122.5°	203.2	203.4	203.5	203.7	203.8	203.9	204.0	204.1	204.1	204.3	204.3
125°	221.2	221.4	221.7	221.9	222.2	222.2	222.1	222.0	221.9	221.7	221.9
127.5°	238.2	238.3	238.3	238.4	238.4	238.6	238.9	239.2	239.5	239.8	239.7
130°	249.1	249.2	249.3	249.4	249.5	249.5	249.7	249.9	250.1	250.3	250.3
132.5°	259.3	259.4	259.4	259.6	259.7	259.8	260.1	260.3	260.5	260.8	260.9
135°	274.3	274.3	274.3	274.2	274.1	274.2	274.5	274.7	275.0	275.2	275.4
137.5°	287.7	287.8	287.8	287.8	287.9	288.0	288.3	288.5	288.8	289.1	289.2
140°	296.5	296.6	296.8	296.8	297.0	297.1	297.2	297.4	297.5	297.6	297.8
142.5°	304.4	304.5	304.8	305.0	305.2	305.4	305.5	305.5	305.6	305.7	305.8
145°	316.4	316.6	316.7	317.0	317.1	317.2	317.2	317.2	317.2	317.2	317.3
147.5°	325.9	326.3	326.6	327.0	327.3	327.5	327.4	327.3	327.3	327.3	327.3
150°	332.9	333.1	333.4	333.7	333.9	334.0	333.9	333.8	333.7	333.7	333.7
152.5°	338.7	338.9	339.1	339.3	339.5	339.5	339.5	339.3	339.2	339.1	339.2
155°	346.9	347.0	347.0	347.1	347.1	347.1	346.9	346.7	346.5	346.3	346.6
157.5°	353.8	353.7	353.7	353.6	353.6	353.5	353.3	353.1	352.8	352.7	353.0
160°	357.8	357.6	357.4	357.3	357.0	357.0	356.9	356.8	356.7	356.6	357.0
162.5°	361.4	361.2	360.9	360.7	360.4	360.3	360.2	360.1	360.1	360.0	360.4
165°	365.9	365.6	365.3	365.0	364.6	364.5	364.5	364.5	364.5	364.5	365.0
167.5°	369.5	369.2	368.8	368.5	368.2	368.0	368.0	368.0	367.9	367.9	368.4
170°	371.5	371.1	370.7	370.4	370.0	369.9	369.9	370.0	370.0	370.1	370.6
172.5°	372.9	372.5	372.1	371.8	371.4	371.2	371.3	371.4	371.4	371.5	371.9
175°	374.3	373.9	373.6	373.2	372.8	372.6	372.7	372.8	372.9	372.9	373.5
177.5°	375.0	374.6	374.3	373.9	373.6	373.4	373.6	373.7	373.8	373.8	374.3
180°	374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0
2.5°	1645.8	1648.4	1650.8	1651.9	1651.7	1651.5	1651.2	1651.1
5°	1634.9	1637.7	1640.5	1641.6	1641.1	1640.5	1640.0	1639.4
7.5°	1613.1	1614.9	1616.8	1617.2	1616.3	1615.4	1614.5	1613.6
10°	1593.6	1594.7	1595.9	1595.9	1594.7	1593.6	1592.4	1591.3
12.5°	1569.4	1570.1	1570.7	1570.3	1568.8	1567.2	1565.6	1564.0
15°	1526.9	1526.4	1525.8	1524.6	1522.6	1520.6	1518.7	1516.7
17.5°	1475.8	1474.3	1472.7	1470.4	1467.4	1464.4	1461.5	1458.5
20°	1440.1	1437.8	1435.6	1432.7	1429.0	1425.4	1421.7	1418.0
22.5°	1400.4	1397.0	1393.7	1390.5	1387.5	1384.5	1381.6	1378.6
25°	1336.3	1331.6	1326.8	1323.0	1320.2	1317.4	1314.5	1311.8
27.5°	1271.1	1265.2	1259.3	1254.3	1250.3	1246.3	1242.2	1238.2
30°	1224.3	1217.3	1210.3	1204.5	1200.0	1195.6	1191.0	1186.5
32.5°	1176.5	1168.4	1160.2	1154.1	1149.8	1145.5	1141.2	1136.9
35°	1105.4	1095.9	1086.3	1079.0	1074.0	1068.9	1063.8	1058.8
37.5°	1029.0	1018.4	1007.7	999.8	994.7	989.7	984.7	979.6
40°	978.3	966.5	954.7	946.2	941.1	936.0	931.1	926.0
42.5°	928.2	916.2	904.1	895.5	890.2	884.9	879.6	874.3
45°	851.6	837.8	824.0	814.6	809.6	804.5	799.5	794.4
47.5°	774.4	760.2	745.9	735.9	730.4	724.8	719.2	713.7
50°	723.3	709.2	695.1	685.5	680.2	674.8	669.5	664.1
52.5°	672.2	658.0	643.6	633.7	628.2	622.7	617.0	611.5
55°	596.9	582.3	567.7	557.7	552.4	547.0	541.7	536.3
57.5°	523.4	508.5	493.7	484.3	480.2	476.1	472.1	468.0
60°	474.2	459.6	445.0	435.5	430.9	426.4	421.9	417.4
62.5°	425.9	412.4	398.9	390.3	386.7	383.2	379.5	376.0
65°	356.6	344.5	332.4	324.6	321.3	317.9	314.6	311.2
67.5°	292.9	282.5	272.1	265.1	261.3	257.6	253.9	250.2
70°	249.6	240.3	231.1	225.1	222.2	219.4	216.6	213.8
72.5°	210.8	202.9	195.0	189.7	187.1	184.6	182.0	179.4
75°	155.3	148.9	142.4	138.3	136.7	134.9	133.2	131.6
77.5°	109.9	106.1	102.3	100.2	99.7	99.2	98.7	98.2
80°	84.4	83.5	82.6	82.1	81.8	81.5	81.3	81.0
82.5°	65.6	65.0	64.3	63.8	63.6	63.3	63.1	62.7
85°	38.1	37.5	37.0	36.7	36.7	36.7	36.7	36.7
87.5°	15.1	15.0	14.8	14.8	15.1	15.4	15.6	15.8
90°	6.9	7.3	7.7	7.9	8.0	8.2	8.2	8.4
92.5°	6.7	7.1	7.4	7.6	7.7	7.7	7.7	7.8
95°	6.9	7.3	7.7	7.8	7.9	8.0	8.1	8.1
97.5°	7.4	7.5	7.5	7.6	7.7	7.7	7.8	7.8
100°	10.2	9.1	8.1	7.6	7.7	7.7	7.8	7.8
102.5°	36.5	25.1	13.7	8.0	8.0	8.0	8.1	8.1
105°	88.5	89.0	89.6	88.7	86.5	84.3	82.0	79.8
107.5°	109.5	109.7	110.0	110.3	110.5	110.7	111.0	111.2
110°	123.7	123.8	124.0	124.1	124.3	124.5	124.7	124.8





TEST NUMBER: P332988-927

CATALOG NUMBER: SA4XXRDIP-C1195D365U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	137.5	137.5	137.4	137.6	137.8	138.1	138.3	138.6
115°	158.1	158.3	158.4	158.4	158.4	158.4	158.4	158.4
117.5°	178.9	178.9	178.9	178.8	178.8	178.8	178.8	178.7
120°	191.7	191.9	192.0	192.0	191.9	191.7	191.6	191.5
122.5°	204.4	204.5	204.5	204.5	204.4	204.3	204.1	204.1
125°	222.1	222.3	222.4	222.6	222.7	222.8	222.8	222.8
127.5°	239.7	239.6	239.6	239.6	239.6	239.5	239.4	239.4
130°	250.4	250.5	250.6	250.6	250.6	250.6	250.6	250.6
132.5°	260.9	261.0	261.1	261.1	261.0	260.9	260.9	260.9
135°	275.4	275.6	275.7	275.8	275.9	276.1	276.2	276.3
137.5°	289.4	289.5	289.6	289.7	289.6	289.6	289.5	289.5
140°	297.9	298.2	298.3	298.5	298.6	298.6	298.7	298.7
142.5°	305.9	306.1	306.2	306.3	306.3	306.3	306.3	306.3
145°	317.3	317.4	317.4	317.5	317.7	317.8	317.9	318.1
147.5°	327.3	327.4	327.4	327.5	327.6	327.6	327.6	327.7
150°	333.7	333.7	333.7	333.7	333.8	333.9	333.9	334.0
152.5°	339.3	339.4	339.5	339.5	339.5	339.5	339.5	339.4
155°	346.8	347.1	347.3	347.4	347.1	347.0	346.8	346.6
157.5°	353.3	353.6	353.9	353.9	353.6	353.3	353.0	352.7
160°	357.4	357.8	358.1	358.1	357.8	357.4	357.0	356.6
162.5°	360.8	361.2	361.6	361.5	361.1	360.7	360.2	359.8
165°	365.5	366.0	366.5	366.5	365.9	365.4	364.8	364.2
167.5°	369.0	369.6	370.0	370.0	369.4	368.8	368.1	367.6
170°	371.1	371.6	372.1	372.0	371.5	370.8	370.2	369.6
172.5°	372.5	373.0	373.4	373.4	372.7	372.0	371.4	370.7
175°	374.1	374.6	375.2	375.1	374.3	373.6	372.8	372.1
177.5°	374.7	375.1	375.5	375.3	374.8	374.1	373.6	373.0
180°	374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3

(END OF REPORT)