

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: P333000-927

Luminaire Tested: **S124RDIP-S1195D810U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333000-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S1195D810U927-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6381.0 lumens
Efficiency: N/A
Efficacy: 105.1 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: General Diffuse

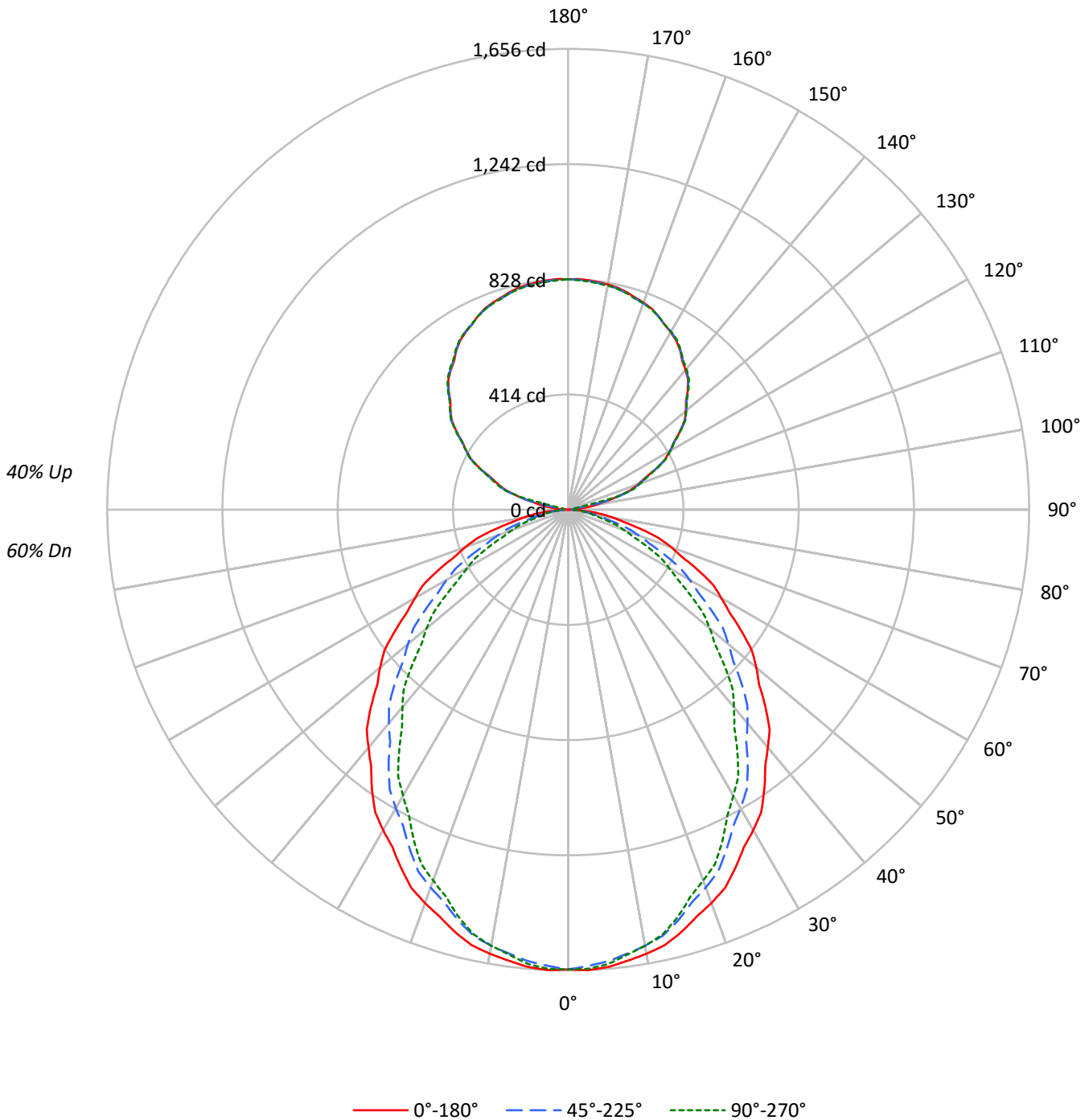
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	56	51
2	92	84	78	73	85	79	74	69	69	65	62	60	57	54	52	49	47	43
3	84	74	67	61	78	70	63	58	61	56	52	53	49	46	46	43	41	37
4	77	66	58	52	72	62	55	50	55	49	45	48	43	40	41	38	35	32
5	71	59	51	45	66	56	48	43	49	43	39	43	38	35	37	34	31	28
6	65	53	45	39	61	50	43	37	44	38	34	39	34	31	34	30	27	25
7	60	48	40	35	56	45	38	33	40	34	30	36	31	27	31	27	24	22
8	56	44	36	31	52	41	34	29	37	31	27	33	28	24	29	25	22	20
9	52	40	33	27	49	38	31	26	34	28	24	30	25	22	26	23	20	18
10	49	37	30	25	46	35	28	24	31	26	22	28	23	20	25	21	18	16

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	2.4
10°-20°	432.8	6.8
20°-30°	624.9	9.8
30°-40°	708.3	11.1
40°-50°	684.0	10.7
50°-60°	568.8	8.9
60°-70°	392.8	6.2
70°-80°	199.1	3.1
80°-90°	53.5	0.8
90°-100°	28.3	0.4
100°-110°	180.6	2.8
110°-120°	345.5	5.4
120°-130°	438.6	6.9
130°-140°	469.2	7.4
140°-150°	438.8	6.9
150°-160°	353.8	5.5
160°-170°	228.2	3.6
170°-180°	78.7	1.2
0°-30°	1212.9	19.0
0°-40°	1921.2	30.1
0°-60°	3174.0	49.7
0°-90°	3819.3	59.9
90°-120°	554.4	8.7
90°-150°	1901.0	29.8
90°-180°	2562.0	40.2
0°-180°	6381.0	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°	2	9	14	17	19	5
95°	34	14	14	17	18	44
105°	186	190	193	197	176	195
115°	348	350	349	351	351	342
125°	489	492	491	492	493	437
135°	607	607	609	610	611	467
145°	700	702	702	702	704	437
155°	768	768	766	768	767	354
165°	810	807	806	811	806	229
175°	828	825	825	830	823	79
180°	828	828	828	828	828	



TEST NUMBER: P333000-927

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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°	23.7	22.2	20.7	19.2	17.7	16.9	16.9	16.9	16.9	16.9	16.8
90°	1.8	3.4	4.9	6.4	7.9	9.2	10.3	11.4	12.5	13.6	14.4
92.5°	7.8	7.9	8.0	8.1	8.2	8.7	9.8	10.9	12.0	13.2	13.9
95°	34.1	29.4	24.7	20.0	15.4	13.1	13.2	13.4	13.5	13.6	14.4
97.5°	72.3	75.3	78.2	81.1	84.1	77.8	62.4	47.1	31.7	16.3	16.4
100°	101.6	104.1	106.5	109.0	111.5	103.2	84.2	65.3	46.3	27.3	24.9
102.5°	134.3	136.1	137.9	139.7	141.6	141.2	138.7	136.3	133.8	131.3	106.1
105°	186.4	187.3	188.1	188.9	189.7	190.5	191.2	191.9	192.6	193.2	194.5
107.5°	234.9	235.3	235.7	236.1	236.5	237.2	238.1	239.1	240.0	241.0	241.5
110°	267.6	268.0	268.4	268.8	269.3	269.8	270.7	271.5	272.4	273.1	273.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	299.3	300.0	300.8	301.5	302.3	302.9	303.2	303.6	304.0	304.4	304.4
115°	348.1	348.5	349.0	349.4	349.7	349.9	349.7	349.6	349.5	349.4	349.6
117.5°	392.1	392.6	393.2	393.7	394.3	394.7	395.0	395.3	395.6	395.9	395.9
120°	421.8	422.4	422.9	423.5	424.0	424.2	424.1	424.0	423.8	423.7	424.0
122.5°	449.6	449.9	450.2	450.5	450.9	451.1	451.3	451.5	451.7	451.9	452.1
125°	489.3	489.9	490.4	491.0	491.5	491.6	491.4	491.2	490.8	490.6	491.0
127.5°	527.0	527.1	527.3	527.4	527.5	527.9	528.5	529.2	529.8	530.4	530.4
130°	551.3	551.4	551.5	551.7	551.8	552.1	552.5	552.9	553.3	553.7	553.9
132.5°	573.5	573.8	574.1	574.3	574.6	575.0	575.4	576.0	576.5	577.0	577.2
135°	607.0	606.9	606.7	606.6	606.5	606.7	607.2	607.8	608.3	608.9	609.1
137.5°	636.6	636.7	636.8	636.8	636.8	637.2	637.8	638.4	639.0	639.6	639.9
140°	655.9	656.2	656.5	656.8	657.0	657.4	657.6	657.9	658.1	658.4	658.9
142.5°	673.3	673.8	674.3	674.8	675.3	675.6	675.7	676.0	676.1	676.3	676.6
145°	699.9	700.4	700.8	701.2	701.6	701.8	701.8	701.8	701.8	701.8	702.0
147.5°	721.1	721.9	722.6	723.4	724.2	724.5	724.4	724.2	724.1	724.0	724.1
150°	736.5	737.0	737.6	738.2	738.6	738.9	738.7	738.6	738.5	738.3	738.3
152.5°	749.3	749.8	750.2	750.7	751.1	751.2	751.0	750.8	750.4	750.2	750.4
155°	767.5	767.5	767.7	767.9	768.0	767.9	767.5	767.0	766.6	766.2	766.8
157.5°	782.7	782.6	782.5	782.4	782.4	782.0	781.6	781.2	780.7	780.2	780.9
160°	791.6	791.2	790.8	790.4	790.0	789.6	789.6	789.4	789.3	789.1	790.0
162.5°	799.5	799.0	798.4	798.0	797.4	797.1	796.9	796.9	796.7	796.5	797.4
165°	809.5	808.9	808.2	807.5	806.8	806.4	806.4	806.4	806.4	806.4	807.6
167.5°	817.5	816.7	816.0	815.3	814.6	814.2	814.1	814.0	814.0	813.9	815.1
170°	822.0	821.1	820.3	819.4	818.6	818.3	818.4	818.6	818.7	818.9	819.9
172.5°	824.9	824.1	823.2	822.4	821.7	821.3	821.4	821.6	821.7	821.8	822.9
175°	828.1	827.3	826.5	825.7	824.8	824.5	824.7	824.7	824.9	825.1	826.2
177.5°	829.7	828.9	828.1	827.3	826.6	826.2	826.5	826.7	827.0	827.1	828.0
180°	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1



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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°	16.8	16.7	16.6	16.8	17.0	17.3	17.6	17.9
90°	15.3	16.1	17.0	17.5	17.7	18.1	18.3	18.6
92.5°	14.8	15.6	16.4	16.9	17.0	17.0	17.0	17.1
95°	15.3	16.1	17.0	17.4	17.6	17.7	17.8	18.0
97.5°	16.6	16.6	16.7	16.8	17.0	17.0	17.2	17.3
100°	22.6	20.2	17.9	16.8	17.0	17.0	17.2	17.3
102.5°	80.8	55.6	30.3	17.7	17.7	17.7	17.8	17.8
105°	195.7	196.9	198.2	196.4	191.4	186.4	181.5	176.5
107.5°	242.2	242.7	243.4	243.9	244.5	244.9	245.5	246.1
110°	273.7	274.0	274.3	274.6	275.0	275.4	275.8	276.2



TEST NUMBER: P333000-927

CATALOG NUMBER: S124RDIP-S1195D810U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	304.3	304.2	304.1	304.4	304.9	305.5	305.9	306.5
115°	349.9	350.1	350.5	350.6	350.6	350.6	350.6	350.6
117.5°	395.8	395.8	395.7	395.6	395.6	395.5	395.5	395.5
120°	424.2	424.5	424.8	424.8	424.5	424.2	424.0	423.7
122.5°	452.3	452.4	452.6	452.5	452.3	451.9	451.7	451.4
125°	491.4	491.8	492.2	492.5	492.7	492.7	492.9	493.1
127.5°	530.3	530.2	530.1	530.0	529.9	529.8	529.7	529.6
130°	554.1	554.1	554.3	554.4	554.4	554.4	554.4	554.4
132.5°	577.3	577.4	577.6	577.6	577.5	577.3	577.3	577.2
135°	609.4	609.7	610.0	610.2	610.5	610.8	611.1	611.3
137.5°	640.2	640.5	640.8	640.9	640.8	640.7	640.6	640.6
140°	659.3	659.7	660.0	660.4	660.5	660.6	660.8	660.9
142.5°	676.8	677.2	677.5	677.6	677.6	677.7	677.7	677.7
145°	702.0	702.2	702.3	702.5	702.8	703.1	703.4	703.6
147.5°	724.2	724.3	724.4	724.5	724.7	724.8	724.9	725.1
150°	738.3	738.3	738.3	738.4	738.6	738.6	738.8	738.9
152.5°	750.7	750.9	751.1	751.1	751.1	751.0	750.9	750.8
155°	767.3	767.9	768.4	768.5	768.0	767.6	767.2	766.8
157.5°	781.6	782.4	783.1	783.1	782.4	781.6	780.9	780.2
160°	790.8	791.6	792.4	792.4	791.6	790.8	790.0	789.1
162.5°	798.2	799.0	799.9	799.8	798.8	797.9	797.0	796.1
165°	808.7	809.8	810.9	810.8	809.5	808.3	807.1	805.8
167.5°	816.3	817.5	818.7	818.6	817.3	815.9	814.5	813.2
170°	821.0	822.1	823.2	823.1	821.7	820.4	819.0	817.6
172.5°	824.0	825.1	826.2	826.0	824.6	823.1	821.6	820.1
175°	827.5	828.8	830.0	829.8	828.1	826.5	824.8	823.2
177.5°	828.9	829.8	830.7	830.4	829.1	827.8	826.5	825.1
180°	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1

(END OF REPORT)