

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: P332685-940

Luminaire Tested: **SA4XXDIP-C1195D590U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332685-940
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: SA4XXDIP-C1195D590U940-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

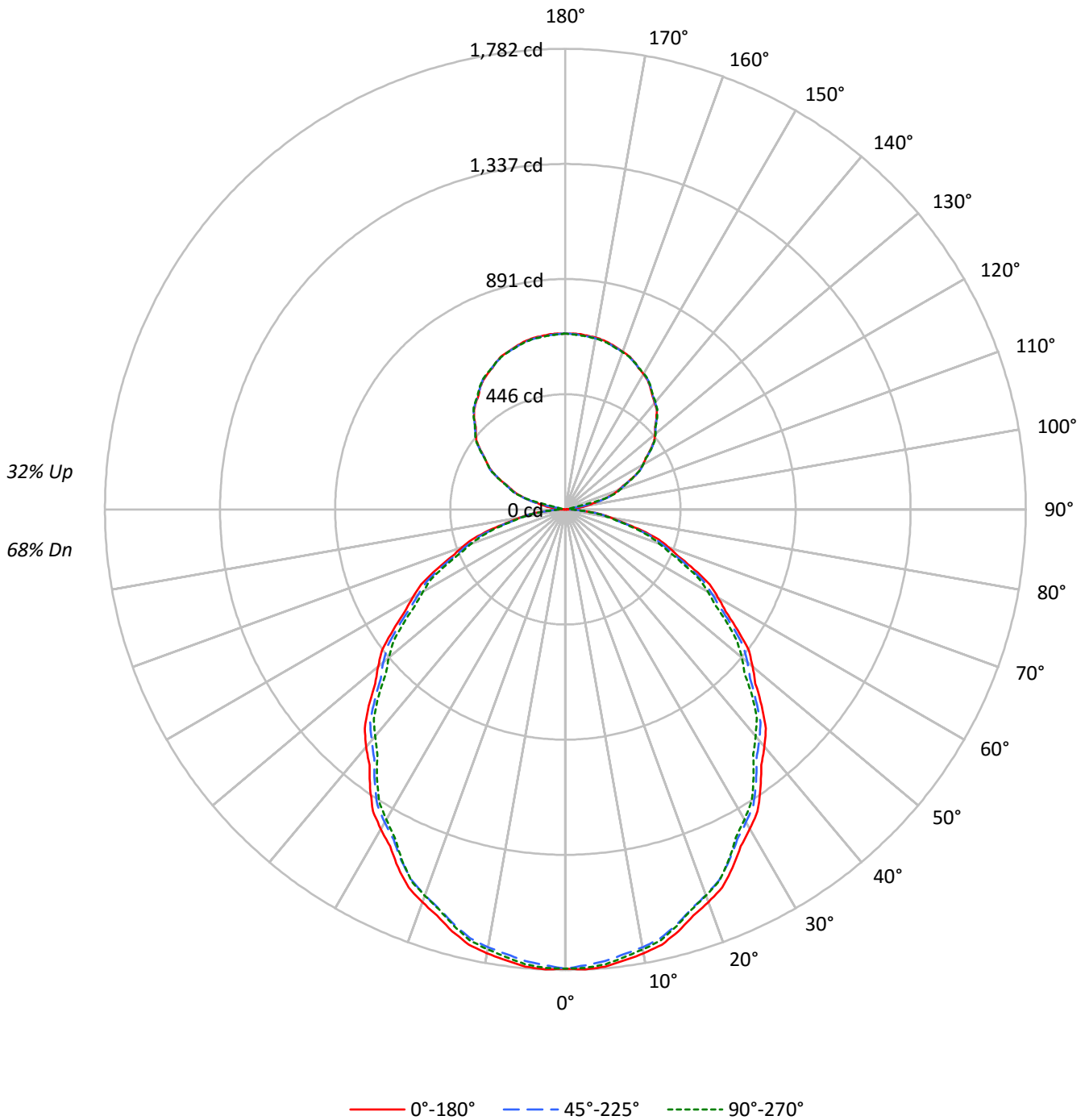
Lumens per Lamp: N/A
Luminaire Lumens: 6665.7 lumens
Efficiency: N/A
Efficacy: 121.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 55.1
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	112	112	112	112	105	105	105	105	94	94	94	83	83	83	73	73	73	68
1	102	97	93	90	96	92	89	85	82	79	77	73	71	69	65	63	62	58
2	93	85	79	73	87	81	75	70	72	68	64	64	61	58	57	54	52	48
3	85	75	67	61	80	71	64	59	64	58	54	57	52	49	50	47	44	41
4	78	66	58	52	73	63	56	50	56	51	46	51	46	42	45	41	38	35
5	71	59	51	45	67	56	49	43	51	44	40	45	40	36	41	36	33	30
6	66	53	45	39	62	51	43	37	46	39	35	41	36	32	37	33	29	27
7	61	48	40	34	57	46	38	33	42	35	31	37	32	28	34	29	26	24
8	57	44	36	30	53	42	34	29	38	32	27	34	29	25	31	27	23	21
9	53	40	32	27	50	38	31	26	35	29	25	32	27	23	29	24	21	19
10	49	37	29	25	47	35	28	24	32	26	22	29	24	21	27	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14346	14346	14346
5°	14389	14216	14319
10°	14299	14100	14170
15°	14125	13900	13936
20°	13897	13651	13664
25°	13635	13367	13331
30°	13313	13035	12915
35°	12980	12686	12518
40°	12635	12290	12064
45°	12273	11900	11671
50°	11875	11552	11195
55°	11444	11102	10742
60°	11013	10598	10277
65°	10527	10118	9712
70°	9982	9477	9106
75°	9148	8706	8484
80°	8140	7810	7610
85°	7123	6854	6725



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.3	2.5
10°-20°	471.5	7.1
20°-30°	694.0	10.4
30°-40°	806.8	12.1
40°-50°	806.8	12.1
50°-60°	705.8	10.6
60°-70°	524.1	7.9
70°-80°	297.8	4.5
80°-90°	87.9	1.3
90°-100°	23.3	0.3
100°-110°	148.3	2.2
110°-120°	283.7	4.3
120°-130°	360.1	5.4
130°-140°	385.3	5.8
140°-150°	360.3	5.4
150°-160°	290.6	4.4
160°-170°	187.4	2.8
170°-180°	64.6	1.0
0°-30°	1332.9	20.0
0°-40°	2139.7	32.1
0°-60°	3652.3	54.8
0°-90°	4562.1	68.4
90°-120°	455.3	6.8
90°-150°	1561.1	23.4
90°-180°	2104.0	31.6
0°-180°	6665.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1777	1777	1777	1777	1777	
5°	1776	1769	1754	1769	1767	168
15°	1690	1684	1663	1671	1667	476
25°	1531	1520	1501	1502	1497	704
35°	1317	1307	1287	1277	1270	823
45°	1075	1064	1042	1027	1022	828
55°	813	808	789	772	763	728
65°	551	544	530	516	508	545
75°	293	286	279	274	272	312
85°	77	77	74	74	73	85
90°	2	7	11	14	15	5
95°	28	12	11	14	15	36
105°	153	156	159	162	145	160
115°	286	287	287	288	288	281
125°	402	404	403	404	405	359
135°	498	498	500	501	502	384
145°	575	576	576	577	578	359
155°	630	631	629	631	630	290
165°	665	662	662	666	662	188
175°	680	677	678	682	676	65
180°	680	680	680	680	680	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0
2.5°	1781.5	1780.8	1780.0	1779.3	1778.5	1776.7	1774.0	1771.2	1768.4	1765.7	1768.2
5°	1775.6	1774.3	1773.1	1771.8	1770.6	1768.2	1764.7	1761.2	1757.7	1754.3	1757.7
7.5°	1759.1	1757.8	1756.6	1755.2	1754.0	1751.5	1747.6	1743.7	1739.9	1736.0	1738.8
10°	1744.3	1743.0	1741.8	1740.4	1739.2	1736.5	1732.4	1728.3	1724.2	1720.1	1722.6
12.5°	1724.9	1723.7	1722.3	1721.1	1719.8	1717.0	1712.7	1708.3	1704.0	1699.6	1702.4
15°	1690.1	1688.9	1687.7	1686.4	1685.1	1682.1	1677.3	1672.6	1667.9	1663.1	1665.0
17.5°	1648.3	1646.7	1645.1	1643.6	1642.0	1639.0	1634.4	1630.0	1625.5	1621.0	1622.2
20°	1617.6	1616.0	1614.4	1612.8	1611.2	1608.0	1603.3	1598.6	1593.8	1589.0	1590.0
22.5°	1584.5	1582.4	1580.4	1578.2	1576.2	1572.7	1568.0	1563.3	1558.5	1553.7	1555.5
25°	1530.7	1528.5	1526.3	1524.0	1521.8	1518.5	1514.0	1509.7	1505.2	1500.7	1501.1
27.5°	1469.2	1466.9	1464.6	1462.3	1460.1	1456.9	1452.8	1448.7	1444.6	1440.4	1439.7
30°	1428.2	1425.7	1423.1	1420.6	1418.1	1414.7	1410.6	1406.5	1402.4	1398.3	1397.0
32.5°	1384.9	1382.6	1380.4	1378.0	1375.7	1372.4	1368.1	1363.7	1359.3	1355.0	1353.4
35°	1317.1	1314.9	1312.7	1310.5	1308.2	1304.9	1300.5	1296.1	1291.6	1287.2	1285.0
37.5°	1245.6	1243.6	1241.6	1239.6	1237.5	1234.1	1229.4	1224.7	1219.9	1215.1	1212.7
40°	1198.9	1196.4	1193.8	1191.3	1188.8	1185.2	1180.4	1175.6	1170.9	1166.2	1163.0
42.5°	1148.8	1147.3	1145.8	1144.2	1142.7	1139.3	1134.1	1128.8	1123.6	1118.3	1114.6
45°	1075.0	1072.8	1070.6	1068.4	1066.2	1062.6	1057.5	1052.4	1047.3	1042.3	1038.8
47.5°	997.8	996.3	994.8	993.3	991.8	988.7	984.0	979.4	974.6	970.0	966.1
50°	945.5	944.2	942.9	941.6	940.4	937.5	933.1	928.7	924.3	919.8	915.4
52.5°	894.2	892.7	891.2	889.7	888.1	885.0	880.4	875.7	871.0	866.3	862.4
55°	813.1	812.1	811.2	810.2	809.2	806.6	802.1	797.7	793.3	788.8	785.1
57.5°	735.6	734.5	733.4	732.4	731.3	728.5	724.2	719.8	715.4	711.1	707.5
60°	682.1	680.5	678.9	677.3	675.7	672.9	668.8	664.7	660.5	656.4	653.5
62.5°	629.6	628.3	627.0	625.6	624.4	621.5	617.2	612.8	608.4	604.0	601.5
65°	551.1	549.5	547.9	546.3	544.7	542.3	539.2	536.0	532.9	529.7	526.6
67.5°	471.9	470.5	469.0	467.5	466.1	463.8	460.7	457.7	454.7	451.7	448.6
70°	422.9	420.7	418.5	416.3	414.0	411.7	409.1	406.6	404.0	401.5	399.0
72.5°	370.5	368.3	366.0	363.8	361.7	359.5	357.5	355.4	353.5	351.4	349.4
75°	293.3	291.8	290.2	288.6	287.0	285.4	283.8	282.2	280.7	279.1	277.9
77.5°	219.5	218.8	218.2	217.5	216.8	215.7	214.4	212.9	211.6	210.2	209.8
80°	175.1	174.2	173.3	172.3	171.4	170.6	170.0	169.2	168.6	168.0	167.4
82.5°	131.9	131.4	131.0	130.5	130.1	129.8	129.7	129.6	129.4	129.3	128.9
85°	76.9	76.9	76.9	76.9	76.9	76.6	76.0	75.3	74.6	74.0	74.0
87.5°	30.0	30.0	29.9	29.9	29.9	29.9	29.8	29.7	29.6	29.6	29.7
90°	1.5	2.8	4.0	5.3	6.5	7.6	8.5	9.4	10.3	11.1	11.9
92.5°	6.4	6.5	6.5	6.6	6.7	7.1	8.1	9.0	9.9	10.8	11.5
95°	28.0	24.2	20.3	16.4	12.6	10.7	10.9	11.0	11.1	11.1	11.9
97.5°	59.4	61.8	64.2	66.6	69.0	63.8	51.3	38.7	26.0	13.5	13.5
100°	83.4	85.4	87.5	89.5	91.6	84.8	69.2	53.6	38.0	22.4	20.4
102.5°	110.3	111.7	113.2	114.8	116.3	116.0	114.0	111.9	109.9	107.8	87.1
105°	153.1	153.8	154.4	155.2	155.8	156.4	157.0	157.6	158.1	158.7	159.7
107.5°	192.9	193.2	193.6	193.9	194.2	194.7	195.6	196.4	197.1	197.9	198.4
110°	219.7	220.1	220.4	220.8	221.1	221.6	222.3	222.9	223.6	224.4	224.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	245.8	246.4	247.0	247.6	248.3	248.7	249.0	249.3	249.7	249.9	249.9
115°	285.9	286.2	286.5	286.9	287.2	287.3	287.2	287.1	287.0	286.9	287.1
117.5°	322.0	322.4	322.9	323.3	323.8	324.1	324.4	324.7	324.9	325.1	325.1
120°	346.4	346.9	347.3	347.8	348.2	348.4	348.3	348.1	348.0	347.9	348.1
122.5°	369.2	369.4	369.7	370.0	370.2	370.5	370.7	370.8	371.0	371.1	371.2
125°	401.8	402.3	402.8	403.2	403.7	403.8	403.5	403.3	403.1	402.9	403.2
127.5°	432.7	432.8	433.0	433.1	433.2	433.5	434.1	434.5	435.1	435.6	435.5
130°	452.7	452.8	452.9	453.1	453.2	453.3	453.7	454.1	454.4	454.8	454.9
132.5°	471.0	471.2	471.4	471.6	471.8	472.2	472.6	473.0	473.4	473.9	473.9
135°	498.5	498.4	498.3	498.1	498.0	498.2	498.6	499.1	499.5	500.0	500.2
137.5°	522.8	522.8	522.9	522.9	523.0	523.3	523.7	524.2	524.8	525.2	525.5
140°	538.7	538.9	539.1	539.3	539.6	539.8	540.0	540.3	540.5	540.7	541.0
142.5°	552.9	553.3	553.8	554.1	554.6	554.8	554.9	555.1	555.2	555.4	555.6
145°	574.8	575.2	575.4	575.8	576.1	576.3	576.3	576.3	576.3	576.3	576.4
147.5°	592.2	592.8	593.4	594.1	594.7	594.9	594.9	594.8	594.6	594.5	594.6
150°	604.8	605.2	605.7	606.2	606.6	606.8	606.6	606.5	606.5	606.3	606.3
152.5°	615.4	615.7	616.1	616.4	616.8	616.9	616.7	616.5	616.3	616.1	616.3
155°	630.3	630.4	630.4	630.5	630.7	630.5	630.3	629.9	629.5	629.2	629.6
157.5°	642.7	642.7	642.6	642.6	642.5	642.2	641.9	641.5	641.1	640.7	641.3
160°	650.1	649.7	649.3	649.1	648.7	648.5	648.4	648.3	648.1	648.0	648.7
162.5°	656.6	656.1	655.7	655.3	654.9	654.6	654.4	654.3	654.2	654.2	654.8
165°	664.8	664.2	663.7	663.1	662.5	662.3	662.3	662.3	662.3	662.3	663.2
167.5°	671.3	670.7	670.1	669.6	669.0	668.6	668.6	668.5	668.4	668.3	669.4
170°	675.0	674.3	673.6	673.0	672.3	672.0	672.1	672.2	672.3	672.4	673.3
172.5°	677.4	676.7	676.1	675.4	674.8	674.4	674.6	674.7	674.8	674.8	675.8
175°	680.1	679.4	678.7	678.1	677.3	677.1	677.2	677.3	677.4	677.5	678.5
177.5°	681.3	680.6	680.0	679.4	678.8	678.5	678.7	678.9	679.0	679.2	680.0
180°	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0
2.5°	1770.7	1773.3	1775.8	1776.9	1776.6	1776.4	1776.1	1775.8
5°	1761.2	1764.7	1768.2	1769.6	1769.0	1768.4	1767.7	1767.0
7.5°	1741.6	1744.4	1747.1	1748.4	1748.0	1747.6	1747.2	1746.9
10°	1725.1	1727.7	1730.2	1731.2	1730.5	1729.9	1729.2	1728.6
12.5°	1705.1	1707.9	1710.7	1711.6	1710.7	1709.9	1709.0	1708.1
15°	1666.9	1668.8	1670.7	1671.2	1670.3	1669.3	1668.3	1667.4
17.5°	1623.4	1624.6	1625.8	1626.0	1625.4	1624.8	1624.2	1623.5
20°	1591.0	1591.9	1592.9	1593.0	1592.4	1591.8	1591.2	1590.5
22.5°	1557.2	1558.9	1560.6	1560.9	1559.8	1558.6	1557.5	1556.3
25°	1501.5	1501.7	1502.1	1501.6	1500.3	1499.1	1497.8	1496.6
27.5°	1438.9	1438.2	1437.3	1436.2	1434.6	1433.1	1431.5	1429.9
30°	1395.7	1394.5	1393.2	1391.8	1390.2	1388.7	1387.1	1385.5
32.5°	1351.9	1350.4	1348.9	1347.4	1345.8	1344.2	1342.6	1341.0
35°	1282.8	1280.6	1278.4	1276.5	1274.9	1273.3	1271.7	1270.2
37.5°	1210.3	1207.9	1205.5	1203.3	1201.2	1199.1	1197.0	1194.9
40°	1159.8	1156.6	1153.5	1151.1	1149.6	1148.0	1146.4	1144.8
42.5°	1111.0	1107.3	1103.7	1101.3	1100.2	1099.1	1098.1	1097.0
45°	1035.4	1031.9	1028.4	1026.2	1025.2	1024.2	1023.3	1022.3
47.5°	962.2	958.2	954.3	951.1	948.7	946.3	943.9	941.5
50°	911.0	906.5	902.1	898.9	897.1	895.2	893.2	891.4
52.5°	858.4	854.5	850.6	847.5	845.1	842.7	840.3	837.9
55°	781.2	777.5	773.6	770.8	768.9	767.0	765.1	763.2
57.5°	703.9	700.3	696.7	693.9	692.1	690.3	688.4	686.6
60°	650.7	647.9	645.1	642.8	641.2	639.6	638.1	636.5
62.5°	598.8	596.2	593.6	591.6	590.0	588.4	586.8	585.2
65°	523.3	520.2	517.0	514.7	513.1	511.5	509.9	508.4
67.5°	445.6	442.6	439.5	437.7	437.3	436.8	436.4	436.0
70°	396.5	394.0	391.4	389.7	388.7	387.8	386.8	385.8
72.5°	347.4	345.4	343.3	341.8	340.9	339.9	338.9	338.0
75°	276.5	275.3	274.0	273.2	273.0	272.6	272.2	272.0
77.5°	209.4	209.0	208.7	208.0	207.2	206.4	205.5	204.7
80°	166.7	166.1	165.5	165.1	164.7	164.3	164.1	163.7
82.5°	128.5	128.1	127.8	127.4	127.1	126.8	126.4	126.2
85°	74.0	74.0	74.0	73.9	73.6	73.2	72.9	72.6
87.5°	29.9	30.0	30.1	30.2	30.2	30.3	30.3	30.4
90°	12.6	13.2	13.9	14.4	14.6	14.8	15.1	15.2
92.5°	12.1	12.8	13.5	13.8	13.9	13.9	14.0	14.0
95°	12.6	13.2	13.9	14.3	14.4	14.5	14.6	14.7
97.5°	13.6	13.6	13.7	13.8	13.9	14.0	14.1	14.3
100°	18.5	16.6	14.7	13.8	13.9	14.0	14.1	14.3
102.5°	66.3	45.7	24.9	14.5	14.6	14.6	14.6	14.6
105°	160.8	161.8	162.7	161.2	157.2	153.1	149.0	145.0
107.5°	198.9	199.4	199.8	200.3	200.7	201.2	201.6	202.1
110°	224.8	225.0	225.2	225.5	225.9	226.1	226.5	226.9



TEST NUMBER: P332685-940

CATALOG NUMBER: SA4XXDIP-C1195D590U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	249.9	249.9	249.8	249.9	250.4	250.8	251.3	251.6
115°	287.3	287.6	287.8	287.9	287.9	287.9	287.9	287.9
117.5°	325.0	325.0	324.9	324.9	324.9	324.9	324.8	324.8
120°	348.4	348.6	348.8	348.8	348.6	348.4	348.1	347.9
122.5°	371.4	371.5	371.7	371.6	371.4	371.1	371.0	370.7
125°	403.5	403.9	404.2	404.5	404.6	404.7	404.7	404.9
127.5°	435.5	435.4	435.3	435.2	435.2	435.1	435.0	434.9
130°	455.0	455.0	455.2	455.2	455.2	455.2	455.2	455.2
132.5°	474.1	474.2	474.3	474.3	474.2	474.1	474.0	473.9
135°	500.4	500.7	500.9	501.1	501.3	501.6	501.9	502.0
137.5°	525.8	526.0	526.2	526.3	526.3	526.2	526.1	526.0
140°	541.4	541.7	542.1	542.2	542.4	542.5	542.6	542.7
142.5°	555.8	556.1	556.3	556.5	556.5	556.5	556.5	556.6
145°	576.5	576.7	576.8	576.9	577.1	577.4	577.7	577.8
147.5°	594.7	594.8	594.9	594.9	595.1	595.2	595.3	595.4
150°	606.3	606.3	606.3	606.4	606.5	606.6	606.7	606.8
152.5°	616.4	616.6	616.8	616.9	616.8	616.7	616.6	616.6
155°	630.1	630.5	631.0	631.1	630.7	630.4	630.1	629.7
157.5°	641.9	642.5	643.0	643.0	642.5	641.9	641.3	640.7
160°	649.3	650.1	650.8	650.8	650.1	649.3	648.7	648.0
162.5°	655.5	656.1	656.8	656.8	656.0	655.2	654.5	653.7
165°	664.1	664.9	665.9	665.8	664.8	663.8	662.8	661.7
167.5°	670.4	671.4	672.3	672.3	671.2	670.0	668.9	667.8
170°	674.2	675.1	676.1	675.9	674.8	673.7	672.5	671.5
172.5°	676.7	677.6	678.5	678.3	677.2	675.9	674.7	673.4
175°	679.6	680.6	681.6	681.4	680.1	678.7	677.3	676.0
177.5°	680.7	681.4	682.2	682.0	680.9	679.8	678.7	677.6
180°	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1

(END OF REPORT)