

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: P332676-935

Luminaire Tested: **S124DIP-S1195D365U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332676-935  
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: S124DIP-S1195D365U935-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

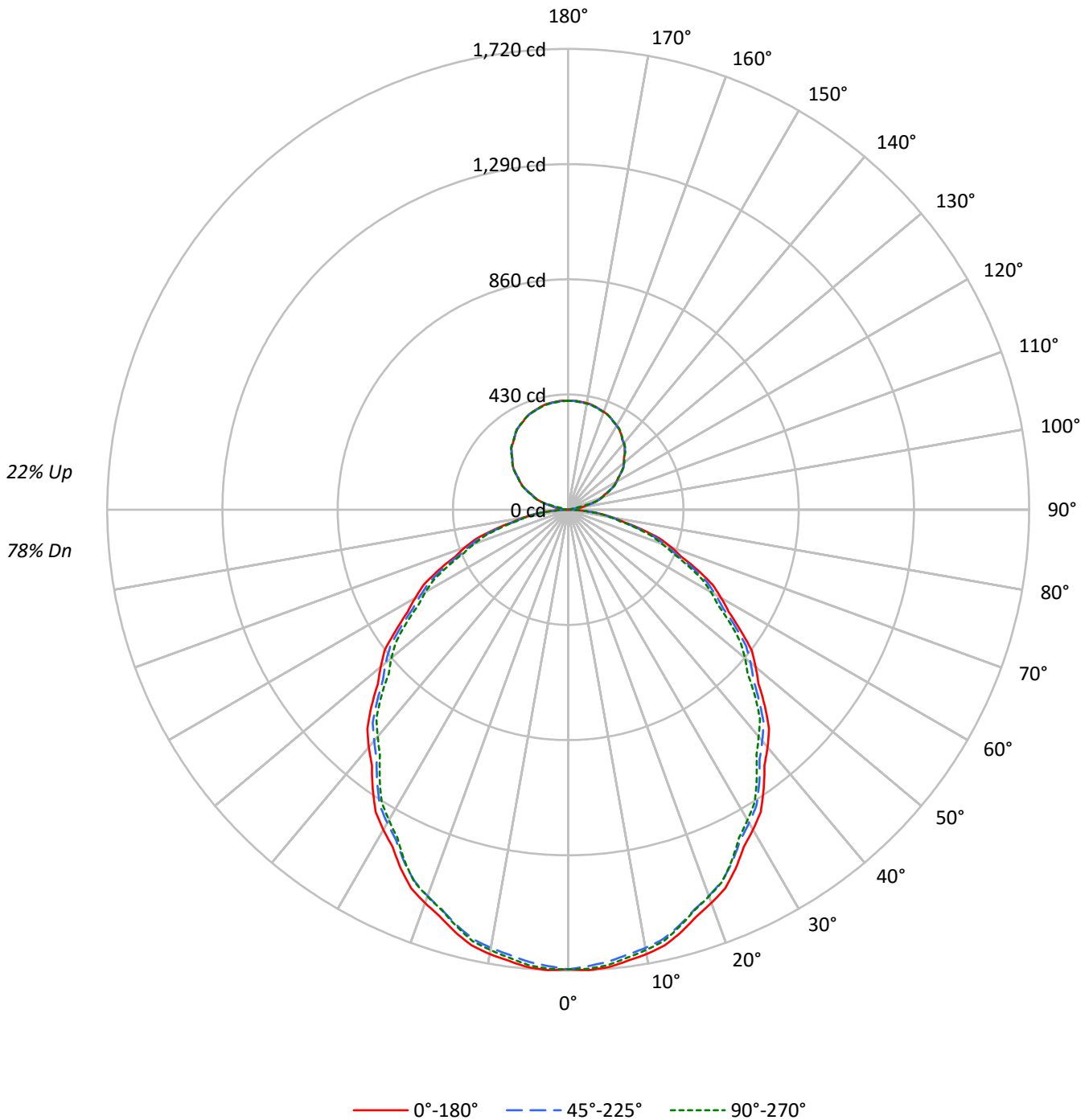
Lumens per Lamp: N/A  
Luminaire Lumens: 5662.7 lumens  
Efficiency: N/A  
Efficacy: 113.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct  
  
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (Ain): 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										
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	50	30	10	50	30	10	0														
RCR																																						
0	114	114	114	114	109	109	109	109	99	99	99	90	90	90	82	82	82	78																				
1	104	99	95	92	99	95	91	88	87	84	81	79	77	75	72	70	69	65																				
2	95	87	80	75	90	83	77	72	76	71	67	69	66	63	63	61	58	55																				
3	86	76	69	63	82	73	66	61	67	61	57	61	57	53	56	53	49	46																				
4	79	68	59	53	75	65	57	51	60	53	48	55	50	45	50	46	43	40																				
5	73	61	52	46	69	58	50	44	54	47	42	49	44	40	45	41	37	35																				
6	67	55	46	40	64	52	45	39	48	42	37	45	39	35	41	36	33	30																				
7	62	49	41	35	59	48	40	34	44	37	33	41	35	31	38	33	29	27																				
8	58	45	37	31	55	43	36	31	40	34	29	37	32	28	35	30	26	24																				
9	54	41	33	28	52	40	32	27	37	31	26	34	29	25	32	27	24	22																				
10	51	38	30	25	48	37	30	25	34	28	24	32	26	23	30	25	22	20																				

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

	0°	45°	90°
0°	13852	13852	13852
5°	13893	13726	13827
10°	13806	13615	13682
15°	13639	13422	13456
20°	13418	13181	13193
25°	13165	12908	12871
30°	12855	12585	12470
35°	12534	12249	12086
40°	12199	11866	11649
45°	11851	11490	11270
50°	11465	11154	10810
55°	11050	10719	10372
60°	10634	10233	9923
65°	10164	9769	9377
70°	9640	9151	8795
75°	8833	8406	8191
80°	7861	7541	7350
85°	6873	6623	6493



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	161.6	2.9
10°-20°	455.3	8.0
20°-30°	670.1	11.8
30°-40°	779.0	13.8
40°-50°	779.1	13.8
50°-60°	681.5	12.0
60°-70°	506.1	8.9
70°-80°	287.5	5.1
80°-90°	84.2	1.5
90°-100°	13.9	0.2
100°-110°	88.7	1.6
110°-120°	169.7	3.0
120°-130°	215.4	3.8
130°-140°	230.5	4.1
140°-150°	215.6	3.8
150°-160°	173.8	3.1
160°-170°	112.1	2.0
170°-180°	38.6	0.7
0°-30°	1287.0	22.7
0°-40°	2066.0	36.5
0°-60°	3526.5	62.3
0°-90°	4404.2	77.8
90°-120°	272.4	4.8
90°-150°	933.9	16.5
90°-180°	1258.0	22.2
0°-180°	5662.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1716	1716	1716	1716	1716	
5°	1714	1708	1694	1708	1706	163
15°	1632	1626	1606	1613	1610	460
25°	1478	1468	1449	1450	1445	680
35°	1272	1262	1243	1233	1226	795
45°	1038	1028	1006	992	987	800
55°	785	780	762	746	737	703
65°	532	525	511	498	491	527
75°	283	276	270	264	263	301
85°	74	74	72	71	70	82
90°	1	4	7	8	9	5
95°	17	7	7	8	9	22
105°	92	93	95	97	87	96
115°	171	172	172	172	172	168
125°	240	242	241	242	242	215
135°	298	298	299	300	300	230
145°	344	345	345	345	346	215
155°	377	377	376	378	377	174
165°	398	396	396	398	396	112
175°	407	405	405	408	404	39
180°	407	407	407	407	407	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1720.2	1719.5	1718.7	1718.0	1717.3	1715.5	1712.9	1710.2	1707.5	1704.9	1707.3
5°	1714.4	1713.2	1712.0	1710.8	1709.6	1707.3	1703.9	1700.6	1697.2	1693.8	1697.2
7.5°	1698.5	1697.3	1696.1	1694.8	1693.6	1691.2	1687.4	1683.7	1680.0	1676.2	1679.0
10°	1684.2	1683.0	1681.8	1680.5	1679.3	1676.7	1672.8	1668.8	1664.8	1660.9	1663.3
12.5°	1665.5	1664.3	1663.0	1661.8	1660.6	1657.9	1653.7	1649.5	1645.3	1641.1	1643.7
15°	1631.9	1630.7	1629.5	1628.3	1627.0	1624.2	1619.5	1615.0	1610.4	1605.9	1607.7
17.5°	1591.6	1590.0	1588.5	1587.0	1585.4	1582.5	1578.1	1573.8	1569.5	1565.1	1566.3
20°	1561.9	1560.3	1558.8	1557.3	1555.7	1552.6	1548.1	1543.5	1539.0	1534.3	1535.2
22.5°	1529.9	1527.9	1526.0	1523.9	1521.9	1518.5	1514.0	1509.4	1504.9	1500.2	1501.9
25°	1478.0	1475.8	1473.7	1471.5	1469.4	1466.2	1461.9	1457.7	1453.4	1449.1	1449.4
27.5°	1418.6	1416.3	1414.2	1412.0	1409.8	1406.7	1402.7	1398.8	1394.8	1390.8	1390.1
30°	1379.0	1376.6	1374.1	1371.7	1369.2	1366.0	1362.0	1358.1	1354.1	1350.1	1348.9
32.5°	1337.2	1335.0	1332.8	1330.6	1328.4	1325.2	1320.9	1316.7	1312.5	1308.3	1306.8
35°	1271.8	1269.6	1267.5	1265.3	1263.2	1260.0	1255.7	1251.5	1247.2	1242.9	1240.7
37.5°	1202.7	1200.8	1198.9	1196.9	1194.9	1191.6	1187.1	1182.5	1177.8	1173.3	1171.0
40°	1157.6	1155.2	1152.7	1150.3	1147.9	1144.4	1139.8	1135.1	1130.6	1126.0	1122.9
42.5°	1109.2	1107.8	1106.3	1104.8	1103.4	1100.1	1095.0	1089.9	1084.9	1079.8	1076.2
45°	1038.0	1035.9	1033.7	1031.6	1029.5	1026.0	1021.1	1016.2	1011.2	1006.4	1003.1
47.5°	963.5	962.0	960.5	959.1	957.6	954.7	950.1	945.6	941.1	936.6	932.8
50°	912.9	911.7	910.4	909.2	908.0	905.3	901.0	896.7	892.4	888.1	883.9
52.5°	863.4	861.9	860.5	859.0	857.6	854.5	850.1	845.5	841.0	836.5	832.7
55°	785.1	784.1	783.3	782.3	781.4	778.8	774.5	770.3	765.9	761.6	758.0
57.5°	710.2	709.2	708.2	707.1	706.1	703.4	699.2	695.0	690.8	686.6	683.1
60°	658.6	657.0	655.5	654.0	652.5	649.7	645.8	641.8	637.7	633.8	631.0
62.5°	608.0	606.7	605.4	604.1	602.9	600.1	595.9	591.7	587.5	583.2	580.7
65°	532.1	530.5	529.0	527.4	526.0	523.7	520.6	517.5	514.5	511.4	508.4
67.5°	455.6	454.3	452.8	451.4	450.0	447.8	444.9	442.0	439.0	436.1	433.2
70°	408.4	406.2	404.1	401.9	399.8	397.5	395.0	392.6	390.1	387.7	385.3
72.5°	357.7	355.6	353.4	351.3	349.2	347.2	345.2	343.2	341.3	339.3	337.3
75°	283.2	281.7	280.2	278.6	277.1	275.6	274.1	272.5	271.0	269.5	268.3
77.5°	212.0	211.3	210.7	210.0	209.3	208.3	207.0	205.6	204.3	202.9	202.6
80°	169.1	168.2	167.3	166.3	165.5	164.7	164.1	163.4	162.8	162.2	161.6
82.5°	127.3	126.9	126.5	126.1	125.6	125.4	125.2	125.1	124.9	124.8	124.5
85°	74.2	74.2	74.2	74.2	74.2	74.0	73.4	72.8	72.1	71.5	71.5
87.5°	28.8	28.7	28.6	28.5	28.4	28.2	28.2	28.0	27.9	27.7	27.8
90°	0.9	1.6	2.4	3.2	3.9	4.6	5.1	5.6	6.1	6.7	7.1
92.5°	3.9	3.9	3.9	4.0	4.0	4.3	4.8	5.3	5.9	6.5	6.9
95°	16.7	14.5	12.1	9.8	7.6	6.5	6.5	6.5	6.6	6.7	7.1
97.5°	35.6	36.9	38.4	39.9	41.2	38.2	30.7	23.2	15.6	8.0	8.1
100°	49.9	51.1	52.3	53.6	54.8	50.7	41.4	32.0	22.7	13.4	12.2
102.5°	66.0	66.9	67.8	68.6	69.6	69.4	68.2	67.0	65.7	64.5	52.1
105°	91.6	92.0	92.4	92.8	93.2	93.6	93.9	94.3	94.6	95.0	95.6
107.5°	115.4	115.5	115.8	116.0	116.2	116.5	117.0	117.4	117.9	118.4	118.6
110°	131.5	131.6	131.8	132.1	132.2	132.6	132.9	133.4	133.8	134.2	134.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	147.1	147.4	147.7	148.1	148.5	148.8	149.0	149.1	149.3	149.6	149.5
115°	171.0	171.3	171.4	171.6	171.9	171.9	171.9	171.8	171.7	171.6	171.8
117.5°	192.6	192.9	193.1	193.5	193.7	193.9	194.1	194.2	194.3	194.5	194.5
120°	207.2	207.5	207.8	208.0	208.3	208.4	208.4	208.3	208.2	208.1	208.3
122.5°	220.8	221.0	221.2	221.4	221.5	221.6	221.7	221.8	221.9	222.1	222.1
125°	240.4	240.6	240.9	241.2	241.5	241.5	241.4	241.3	241.2	241.0	241.2
127.5°	258.9	259.0	259.0	259.1	259.2	259.3	259.7	259.9	260.3	260.6	260.5
130°	270.8	270.9	271.0	271.0	271.1	271.2	271.4	271.6	271.8	272.1	272.1
132.5°	281.8	281.9	282.0	282.1	282.2	282.4	282.7	282.9	283.2	283.4	283.5
135°	298.2	298.2	298.1	298.0	297.9	298.0	298.3	298.6	298.9	299.1	299.3
137.5°	312.7	312.8	312.8	312.8	312.9	313.1	313.3	313.6	313.9	314.2	314.4
140°	322.3	322.4	322.5	322.6	322.8	322.9	323.0	323.2	323.3	323.5	323.6
142.5°	330.8	331.0	331.2	331.5	331.7	331.9	332.0	332.1	332.2	332.3	332.3
145°	343.9	344.1	344.2	344.5	344.7	344.7	344.7	344.7	344.7	344.7	344.8
147.5°	354.2	354.6	355.0	355.4	355.8	355.9	355.9	355.8	355.7	355.7	355.7
150°	361.8	362.1	362.3	362.7	362.9	363.0	362.9	362.8	362.7	362.7	362.7
152.5°	368.2	368.3	368.6	368.8	369.0	369.0	368.9	368.8	368.7	368.6	368.7
155°	377.0	377.1	377.1	377.2	377.3	377.2	377.0	376.8	376.6	376.4	376.7
157.5°	384.5	384.4	384.4	384.4	384.4	384.2	384.0	383.7	383.5	383.3	383.7
160°	388.9	388.7	388.5	388.3	388.1	388.0	387.9	387.8	387.7	387.6	388.1
162.5°	392.8	392.5	392.3	392.0	391.8	391.6	391.5	391.4	391.4	391.3	391.8
165°	397.7	397.4	397.0	396.7	396.3	396.1	396.1	396.1	396.1	396.1	396.7
167.5°	401.6	401.2	400.9	400.5	400.2	400.0	399.9	399.9	399.8	399.8	400.5
170°	403.8	403.4	402.9	402.6	402.2	402.0	402.1	402.2	402.2	402.3	402.8
172.5°	405.3	404.8	404.4	404.1	403.6	403.5	403.6	403.6	403.6	403.7	404.2
175°	406.8	406.4	406.0	405.6	405.2	405.0	405.1	405.2	405.3	405.3	406.0
177.5°	407.6	407.2	406.8	406.4	406.0	405.9	406.0	406.1	406.2	406.3	406.8
180°	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1709.7	1712.2	1714.6	1715.7	1715.5	1715.2	1714.9	1714.7
5°	1700.6	1703.9	1707.3	1708.7	1708.1	1707.4	1706.8	1706.2
7.5°	1681.6	1684.3	1687.0	1688.2	1687.8	1687.4	1687.0	1686.7
10°	1665.7	1668.2	1670.6	1671.5	1670.9	1670.3	1669.7	1669.0
12.5°	1646.4	1649.1	1651.8	1652.7	1651.8	1651.0	1650.1	1649.2
15°	1609.5	1611.4	1613.2	1613.6	1612.7	1611.8	1610.8	1610.0
17.5°	1567.5	1568.7	1569.8	1570.0	1569.4	1568.8	1568.2	1567.6
20°	1536.2	1537.1	1538.0	1538.2	1537.6	1537.0	1536.4	1535.7
22.5°	1503.6	1505.2	1506.8	1507.1	1506.1	1504.9	1503.8	1502.7
25°	1449.8	1450.0	1450.4	1449.8	1448.6	1447.4	1446.2	1445.0
27.5°	1389.3	1388.6	1387.8	1386.7	1385.2	1383.7	1382.2	1380.6
30°	1347.6	1346.4	1345.2	1343.8	1342.3	1340.8	1339.3	1337.7
32.5°	1305.4	1303.9	1302.4	1301.0	1299.4	1297.9	1296.4	1294.9
35°	1238.6	1236.5	1234.3	1232.5	1231.0	1229.4	1227.9	1226.4
37.5°	1168.6	1166.3	1164.0	1161.8	1159.9	1157.8	1155.8	1153.7
40°	1119.9	1116.8	1113.8	1111.5	1110.0	1108.5	1106.9	1105.4
42.5°	1072.7	1069.2	1065.7	1063.3	1062.3	1061.3	1060.2	1059.2
45°	999.7	996.3	993.0	990.8	989.9	988.9	988.1	987.1
47.5°	929.0	925.2	921.4	918.3	916.0	913.7	911.4	909.0
50°	879.6	875.3	871.1	868.0	866.2	864.4	862.5	860.7
52.5°	828.9	825.1	821.3	818.3	816.0	813.6	811.3	809.0
55°	754.3	750.7	747.0	744.2	742.4	740.6	738.7	736.9
57.5°	679.7	676.1	672.7	670.0	668.3	666.5	664.7	663.0
60°	628.3	625.6	622.8	620.7	619.1	617.6	616.1	614.6
62.5°	578.2	575.7	573.2	571.2	569.6	568.1	566.6	565.1
65°	505.3	502.3	499.2	497.0	495.4	493.9	492.3	490.9
67.5°	430.2	427.3	424.4	422.7	422.2	421.8	421.4	420.9
70°	382.8	380.4	377.9	376.3	375.3	374.4	373.5	372.6
72.5°	335.4	333.5	331.5	330.0	329.2	328.2	327.3	326.4
75°	267.0	265.8	264.6	263.8	263.6	263.2	262.9	262.6
77.5°	202.2	201.8	201.5	200.9	200.1	199.3	198.5	197.7
80°	161.0	160.4	159.8	159.4	159.0	158.7	158.4	158.1
82.5°	124.1	123.7	123.4	123.0	122.7	122.4	122.1	121.8
85°	71.5	71.5	71.5	71.4	71.0	70.7	70.4	70.1
87.5°	27.9	28.0	28.1	28.2	28.2	28.2	28.2	28.2
90°	7.5	7.9	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	7.2	7.7	8.1	8.3	8.4	8.4	8.4	8.4
95°	7.5	7.9	8.4	8.5	8.6	8.7	8.8	8.8
97.5°	8.1	8.2	8.2	8.3	8.4	8.4	8.4	8.5
100°	11.1	9.9	8.8	8.3	8.4	8.4	8.4	8.5
102.5°	39.7	27.3	14.9	8.7	8.7	8.7	8.8	8.8
105°	96.2	96.8	97.4	96.4	94.0	91.6	89.1	86.7
107.5°	119.0	119.2	119.6	119.9	120.1	120.4	120.6	120.9
110°	134.5	134.6	134.7	134.9	135.1	135.3	135.5	135.7





TEST NUMBER: P332676-935

CATALOG NUMBER: S124DIP-S1195D365U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	149.5	149.5	149.4	149.6	149.8	150.1	150.3	150.6
115°	171.9	172.0	172.2	172.2	172.2	172.2	172.2	172.2
117.5°	194.4	194.4	194.4	194.3	194.3	194.3	194.3	194.2
120°	208.4	208.5	208.7	208.7	208.5	208.4	208.3	208.1
122.5°	222.1	222.2	222.3	222.3	222.1	222.1	221.9	221.8
125°	241.4	241.6	241.8	241.9	242.0	242.1	242.1	242.2
127.5°	260.5	260.5	260.5	260.4	260.4	260.3	260.2	260.2
130°	272.2	272.2	272.3	272.3	272.3	272.3	272.3	272.3
132.5°	283.6	283.7	283.8	283.8	283.7	283.6	283.6	283.5
135°	299.4	299.5	299.6	299.8	299.9	300.1	300.2	300.3
137.5°	314.5	314.7	314.8	314.9	314.8	314.8	314.7	314.7
140°	323.8	324.1	324.3	324.4	324.5	324.5	324.6	324.7
142.5°	332.5	332.7	332.8	332.9	332.9	332.9	332.9	332.9
145°	344.9	345.0	345.0	345.1	345.3	345.4	345.5	345.7
147.5°	355.8	355.9	355.9	355.9	356.0	356.0	356.1	356.2
150°	362.7	362.7	362.7	362.7	362.8	362.9	362.9	363.0
152.5°	368.8	368.9	369.0	369.0	368.9	368.9	368.9	368.9
155°	376.9	377.2	377.5	377.5	377.3	377.1	376.9	376.7
157.5°	384.0	384.4	384.7	384.7	384.4	384.0	383.7	383.3
160°	388.5	388.9	389.3	389.3	388.9	388.5	388.1	387.6
162.5°	392.1	392.5	393.0	392.9	392.4	392.0	391.5	391.1
165°	397.3	397.8	398.4	398.3	397.7	397.1	396.5	395.9
167.5°	401.1	401.7	402.2	402.2	401.5	400.8	400.1	399.5
170°	403.4	403.9	404.4	404.3	403.7	403.0	402.3	401.7
172.5°	404.8	405.4	405.9	405.8	405.1	404.3	403.6	402.9
175°	406.6	407.2	407.8	407.7	406.8	406.0	405.2	404.4
177.5°	407.3	407.7	408.1	407.9	407.3	406.7	406.0	405.4
180°	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8

(END OF REPORT)