

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: P332632-927

Luminaire Tested: **SA4XXDIP-C1020D365U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332632-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C1020D365U927-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

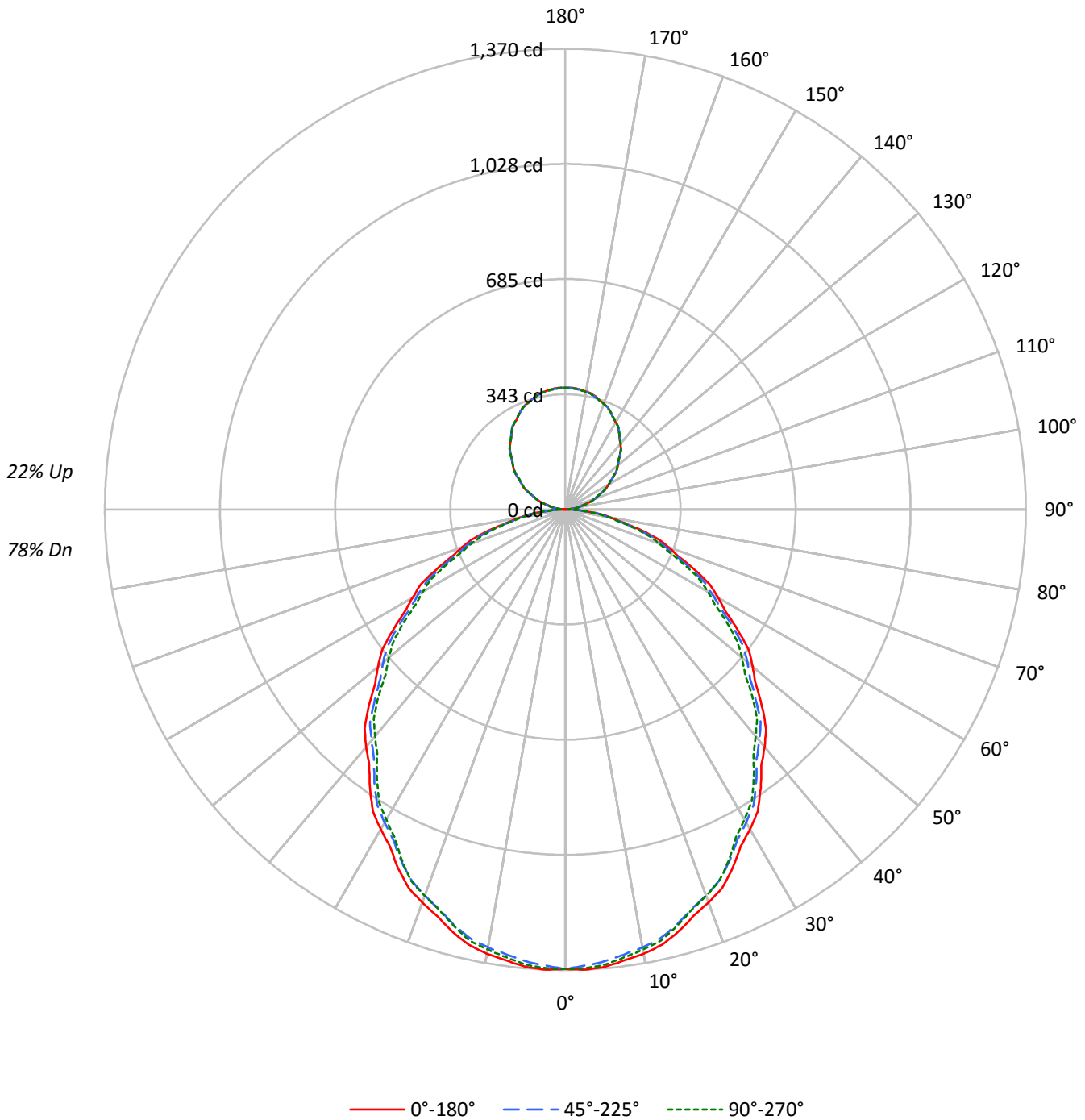
Lumens per Lamp: N/A  
Luminaire Lumens: 4513.0 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 43.5  
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	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°	11035	11035	11035
5°	11068	10935	11015
10°	10999	10846	10900
15°	10866	10692	10719
20°	10689	10501	10510
25°	10488	10283	10253
30°	10241	10026	9934
35°	9984	9758	9629
40°	9720	9454	9280
45°	9442	9154	8978
50°	9134	8887	8611
55°	8802	8541	8263
60°	8472	8152	7905
65°	8097	7782	7469
70°	7678	7291	7006
75°	7037	6697	6525
80°	6267	6007	5858
85°	5483	5280	5169



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	128.7	2.9
10°-20°	362.7	8.0
20°-30°	533.8	11.8
30°-40°	620.6	13.8
40°-50°	620.6	13.8
50°-60°	542.9	12.0
60°-70°	403.2	8.9
70°-80°	229.1	5.1
80°-90°	67.2	1.5
90°-100°	23.9	0.5
100°-110°	70.7	1.6
110°-120°	120.0	2.7
120°-130°	158.3	3.5
130°-140°	177.8	3.9
140°-150°	174.7	3.9
150°-160°	146.9	3.3
160°-170°	97.7	2.2
170°-180°	34.2	0.8
0°-30°	1025.2	22.7
0°-40°	1645.9	36.5
0°-60°	2809.4	62.3
0°-90°	3508.8	77.7
90°-120°	214.6	4.8
90°-150°	725.3	16.1
90°-180°	1004.0	22.2
0°-180°	4513.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1366	1361	1349	1361	1359	129
15°	1300	1295	1279	1285	1282	366
25°	1177	1169	1154	1155	1151	541
35°	1013	1005	990	983	977	633
45°	827	819	802	790	786	637
55°	625	621	607	594	587	560
65°	424	418	407	397	391	420
75°	226	220	215	210	209	240
85°	59	59	57	57	56	65
90°	1	4	6	8	8	4
95°	17	19	21	22	22	19
105°	65	66	67	67	68	69
115°	122	122	122	121	121	120
125°	178	178	177	177	176	158
135°	229	231	231	230	230	177
145°	278	280	280	280	279	174
155°	319	319	319	320	319	147
165°	347	347	346	348	347	98
175°	361	360	360	362	360	34
180°	362	362	362	362	362	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9
2.5°	1370.4	1369.8	1369.2	1368.7	1368.1	1366.7	1364.5	1362.4	1360.3	1358.1	1360.1
5°	1365.8	1364.9	1363.9	1362.9	1361.9	1360.1	1357.4	1354.7	1352.1	1349.4	1352.1
7.5°	1353.1	1352.1	1351.1	1350.2	1349.2	1347.3	1344.3	1341.3	1338.3	1335.4	1337.5
10°	1341.7	1340.8	1339.7	1338.8	1337.8	1335.8	1332.6	1329.4	1326.3	1323.1	1325.0
12.5°	1326.8	1325.9	1324.8	1323.9	1322.9	1320.7	1317.4	1314.1	1310.7	1307.3	1309.5
15°	1300.1	1299.1	1298.1	1297.2	1296.2	1293.9	1290.2	1286.6	1282.9	1279.3	1280.7
17.5°	1267.9	1266.7	1265.4	1264.2	1263.1	1260.7	1257.2	1253.8	1250.3	1246.9	1247.8
20°	1244.2	1243.0	1241.8	1240.6	1239.4	1236.9	1233.3	1229.6	1226.0	1222.3	1223.1
22.5°	1218.9	1217.2	1215.6	1214.0	1212.4	1209.7	1206.1	1202.5	1198.8	1195.2	1196.5
25°	1177.4	1175.8	1174.0	1172.3	1170.6	1168.1	1164.7	1161.3	1157.9	1154.4	1154.7
27.5°	1130.1	1128.4	1126.6	1124.8	1123.1	1120.6	1117.5	1114.3	1111.1	1107.9	1107.4
30°	1098.6	1096.6	1094.6	1092.7	1090.8	1088.2	1085.1	1081.9	1078.7	1075.5	1074.6
32.5°	1065.2	1063.5	1061.8	1060.0	1058.3	1055.7	1052.3	1049.0	1045.6	1042.3	1041.1
35°	1013.1	1011.5	1009.7	1008.1	1006.3	1003.8	1000.4	997.0	993.6	990.1	988.4
37.5°	958.1	956.6	955.1	953.5	951.9	949.4	945.6	942.0	938.3	934.7	932.9
40°	922.3	920.3	918.3	916.4	914.4	911.6	908.0	904.4	900.7	897.1	894.6
42.5°	883.7	882.5	881.3	880.2	879.0	876.4	872.4	868.3	864.3	860.2	857.4
45°	827.0	825.2	823.6	821.8	820.1	817.3	813.4	809.5	805.6	801.8	799.1
47.5°	767.5	766.4	765.2	764.1	762.9	760.5	756.9	753.3	749.7	746.1	743.1
50°	727.3	726.3	725.3	724.4	723.3	721.2	717.8	714.4	711.0	707.6	704.2
52.5°	687.9	686.7	685.5	684.4	683.2	680.8	677.2	673.6	669.9	666.4	663.4
55°	625.4	624.6	623.9	623.2	622.5	620.4	617.0	613.6	610.2	606.8	603.9
57.5°	565.9	565.0	564.2	563.3	562.5	560.4	557.1	553.7	550.3	547.0	544.2
60°	524.7	523.4	522.2	521.0	519.8	517.6	514.4	511.3	508.1	504.9	502.7
62.5°	484.3	483.3	482.3	481.3	480.2	478.1	474.7	471.3	467.9	464.6	462.6
65°	423.9	422.6	421.4	420.3	419.0	417.2	414.7	412.3	409.9	407.4	405.0
67.5°	363.0	361.9	360.8	359.7	358.5	356.8	354.4	352.1	349.7	347.5	345.1
70°	325.3	323.6	321.9	320.2	318.5	316.6	314.7	312.8	310.9	308.9	306.9
72.5°	285.0	283.3	281.6	279.9	278.2	276.6	275.0	273.5	271.9	270.3	268.8
75°	225.6	224.4	223.2	222.0	220.8	219.5	218.3	217.1	215.9	214.7	213.7
77.5°	168.9	168.3	167.8	167.3	166.8	166.0	164.9	163.8	162.7	161.7	161.4
80°	134.8	134.0	133.2	132.5	131.8	131.2	130.7	130.2	129.8	129.2	128.7
82.5°	101.4	101.1	100.8	100.4	100.1	99.8	99.7	99.7	99.6	99.4	99.2
85°	59.2	59.2	59.2	59.2	59.2	58.9	58.4	57.9	57.4	57.0	57.0
87.5°	23.0	22.9	22.8	22.8	22.7	22.7	22.6	22.4	22.3	22.3	22.3
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°	6.0	6.8	7.5	8.3	9.1	9.7	10.1	10.4	10.8	11.1	11.3
95°	16.8	17.3	17.9	18.5	19.0	19.6	20.0	20.4	20.8	21.3	21.5
97.5°	29.3	29.8	30.3	30.7	31.1	31.6	32.1	32.6	33.1	33.7	33.9
100°	39.2	39.5	39.7	39.9	40.2	40.6	41.1	41.7	42.3	42.9	42.9
102.5°	49.5	49.6	49.7	49.8	49.9	50.2	50.7	51.3	51.7	52.2	52.4
105°	65.2	65.3	65.4	65.4	65.4	65.6	65.9	66.1	66.4	66.6	66.8
107.5°	81.8	81.8	81.9	82.0	82.1	82.1	82.1	82.1	82.2	82.2	82.4
110°	92.9	93.1	93.2	93.3	93.4	93.5	93.4	93.3	93.2	93.2	93.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	104.6	104.6	104.6	104.6	104.6	104.6	104.5	104.4	104.3	104.2	104.2
115°	122.1	122.1	122.1	122.1	122.1	122.0	121.8	121.8	121.6	121.5	121.4
117.5°	138.5	138.6	138.6	138.6	138.7	138.7	138.6	138.6	138.4	138.3	138.2
120°	149.5	149.7	150.0	150.2	150.5	150.5	150.4	150.1	150.0	149.8	149.5
122.5°	160.9	161.0	161.1	161.2	161.3	161.3	161.2	161.1	161.1	161.0	160.7
125°	177.8	177.8	177.8	177.8	177.8	177.7	177.7	177.6	177.5	177.4	177.4
127.5°	193.1	193.2	193.5	193.6	193.8	193.8	193.8	193.6	193.5	193.5	193.3
130°	203.8	204.0	204.1	204.4	204.5	204.6	204.6	204.6	204.6	204.6	204.5
132.5°	214.8	214.9	215.0	215.2	215.3	215.3	215.3	215.2	215.2	215.2	215.0
135°	229.3	229.7	230.0	230.4	230.8	230.9	230.9	230.9	230.9	230.9	230.8
137.5°	245.0	245.3	245.4	245.6	245.7	245.9	246.0	246.1	246.2	246.3	246.1
140°	255.6	255.7	255.8	256.0	256.1	256.1	256.1	256.1	256.1	256.1	256.1
142.5°	265.2	265.3	265.5	265.5	265.7	265.8	265.7	265.6	265.6	265.5	265.5
145°	278.5	278.8	279.0	279.2	279.6	279.7	279.7	279.8	279.9	280.0	279.9
147.5°	291.8	292.1	292.3	292.6	292.9	293.0	293.0	292.9	292.9	292.9	292.8
150°	299.8	300.1	300.3	300.6	300.8	301.0	301.0	301.0	301.0	301.0	301.0
152.5°	307.4	307.6	307.7	307.8	308.0	308.1	308.2	308.2	308.2	308.3	308.5
155°	319.1	319.1	319.1	319.1	319.1	319.1	319.0	318.9	318.9	318.9	319.1
157.5°	329.0	328.8	328.8	328.7	328.5	328.4	328.4	328.4	328.4	328.4	328.6
160°	334.8	334.7	334.7	334.6	334.5	334.5	334.5	334.4	334.3	334.2	334.5
162.5°	340.2	340.0	339.8	339.7	339.5	339.5	339.4	339.3	339.2	339.1	339.5
165°	347.4	347.2	347.1	346.8	346.7	346.5	346.3	346.3	346.1	346.0	346.3
167.5°	352.9	352.7	352.4	352.1	351.9	351.7	351.8	351.8	351.8	351.8	352.2
170°	356.1	355.8	355.5	355.1	354.8	354.7	354.7	354.8	354.9	355.0	355.3
172.5°	358.3	358.1	357.7	357.5	357.3	357.1	357.1	357.2	357.2	357.2	357.6
175°	361.4	361.1	360.8	360.4	360.1	360.0	359.9	359.8	359.8	359.7	360.1
177.5°	362.4	362.2	361.9	361.6	361.4	361.3	361.3	361.3	361.3	361.3	361.6
180°	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9	1366.9
2.5°	1362.0	1364.0	1366.0	1366.8	1366.6	1366.4	1366.2	1366.0
5°	1354.7	1357.4	1360.1	1361.2	1360.7	1360.2	1359.7	1359.2
7.5°	1339.7	1341.8	1343.9	1344.9	1344.6	1344.3	1343.9	1343.7
10°	1327.0	1329.0	1330.9	1331.6	1331.1	1330.6	1330.2	1329.7
12.5°	1311.6	1313.8	1315.9	1316.6	1316.0	1315.3	1314.5	1313.9
15°	1282.2	1283.7	1285.2	1285.5	1284.8	1284.0	1283.3	1282.5
17.5°	1248.7	1249.7	1250.5	1250.8	1250.3	1249.8	1249.4	1248.8
20°	1223.8	1224.6	1225.3	1225.3	1224.9	1224.4	1223.9	1223.4
22.5°	1197.8	1199.1	1200.4	1200.6	1199.8	1198.9	1198.0	1197.1
25°	1154.9	1155.2	1155.4	1155.0	1154.1	1153.1	1152.1	1151.1
27.5°	1106.8	1106.2	1105.6	1104.8	1103.5	1102.3	1101.1	1099.9
30°	1073.6	1072.6	1071.7	1070.6	1069.4	1068.1	1066.9	1065.7
32.5°	1039.9	1038.8	1037.6	1036.4	1035.1	1034.0	1032.8	1031.5
35°	986.7	985.0	983.3	981.8	980.6	979.5	978.2	977.0
37.5°	931.0	929.2	927.3	925.6	924.0	922.3	920.8	919.2
40°	892.2	889.7	887.3	885.5	884.2	883.0	881.9	880.6
42.5°	854.6	851.8	848.9	847.1	846.3	845.4	844.6	843.8
45°	796.4	793.7	791.0	789.3	788.6	787.9	787.1	786.4
47.5°	740.1	737.0	734.0	731.6	729.8	727.9	726.0	724.2
50°	700.8	697.4	694.0	691.5	690.0	688.6	687.1	685.6
52.5°	660.4	657.3	654.3	651.9	650.0	648.2	646.3	644.4
55°	600.9	598.0	595.1	592.9	591.4	590.0	588.5	587.1
57.5°	541.5	538.7	535.9	533.8	532.3	531.0	529.6	528.1
60°	500.6	498.4	496.1	494.5	493.2	492.0	490.8	489.6
62.5°	460.7	458.6	456.6	455.0	453.8	452.6	451.4	450.2
65°	402.6	400.1	397.7	395.9	394.7	393.5	392.2	391.0
67.5°	342.8	340.4	338.1	336.8	336.4	336.0	335.7	335.4
70°	305.0	303.0	301.1	299.8	299.0	298.3	297.5	296.8
72.5°	267.2	265.6	264.1	262.9	262.2	261.5	260.8	260.0
75°	212.7	211.8	210.8	210.2	209.9	209.7	209.5	209.2
77.5°	161.1	160.8	160.5	160.0	159.4	158.8	158.1	157.5
80°	128.3	127.8	127.3	126.9	126.7	126.4	126.2	126.0
82.5°	98.9	98.5	98.3	98.0	97.8	97.5	97.3	97.0
85°	57.0	57.0	57.0	56.8	56.6	56.3	56.1	55.8
87.5°	22.4	22.5	22.6	22.6	22.7	22.7	22.7	22.7
90°	6.9	7.3	7.7	7.9	8.0	8.2	8.2	8.4
92.5°	11.6	11.7	12.0	12.1	12.2	12.3	12.4	12.4
95°	21.6	21.9	22.0	22.1	22.1	22.1	22.1	22.1
97.5°	34.1	34.3	34.5	34.6	34.6	34.6	34.6	34.6
100°	43.1	43.2	43.3	43.4	43.4	43.4	43.4	43.4
102.5°	52.6	52.8	52.9	53.1	53.1	53.2	53.2	53.2
105°	67.0	67.2	67.3	67.6	67.7	68.0	68.1	68.3
107.5°	82.6	82.8	82.9	83.0	83.0	83.0	83.0	82.9
110°	93.0	92.8	92.7	92.8	92.9	93.2	93.3	93.5





TEST NUMBER: P332632-927

CATALOG NUMBER: SA4XXDIP-C1020D365U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	104.2	104.1	104.1	104.1	104.2	104.2	104.2	104.3
115°	121.4	121.3	121.2	121.2	121.1	121.0	121.0	121.0
117.5°	137.9	137.7	137.5	137.4	137.2	137.0	137.0	136.8
120°	149.2	148.9	148.5	148.5	148.5	148.7	148.8	148.9
122.5°	160.6	160.3	160.1	159.9	159.7	159.5	159.2	159.0
125°	177.2	177.1	177.0	176.8	176.7	176.6	176.5	176.3
127.5°	193.2	193.1	192.9	192.8	192.7	192.7	192.5	192.4
130°	204.4	204.2	204.1	203.9	203.7	203.4	203.2	203.0
132.5°	214.9	214.8	214.7	214.5	214.4	214.4	214.3	214.1
135°	230.7	230.6	230.4	230.3	230.1	229.9	229.7	229.6
137.5°	246.0	245.8	245.7	245.6	245.6	245.7	245.7	245.7
140°	256.0	256.0	255.9	255.8	255.8	255.7	255.6	255.6
142.5°	265.5	265.5	265.5	265.5	265.5	265.5	265.5	265.5
145°	279.8	279.7	279.7	279.6	279.4	279.2	279.0	278.8
147.5°	292.8	292.7	292.6	292.6	292.6	292.5	292.4	292.4
150°	301.0	301.0	301.0	300.9	300.9	300.8	300.7	300.6
152.5°	308.6	308.8	309.0	308.9	308.7	308.6	308.4	308.2
155°	319.3	319.6	319.8	319.8	319.6	319.3	319.1	318.9
157.5°	328.8	329.0	329.2	329.2	328.9	328.8	328.5	328.3
160°	334.6	334.8	335.0	334.9	334.6	334.3	334.0	333.7
162.5°	339.8	340.2	340.5	340.5	340.2	339.9	339.6	339.3
165°	346.7	347.1	347.5	347.5	347.3	347.1	346.8	346.6
167.5°	352.6	352.9	353.3	353.3	352.9	352.5	352.1	351.7
170°	355.7	356.1	356.5	356.4	356.0	355.5	355.1	354.7
172.5°	358.1	358.5	358.9	358.9	358.5	358.0	357.6	357.1
175°	360.6	361.0	361.5	361.5	361.0	360.6	360.1	359.7
177.5°	361.9	362.3	362.7	362.7	362.3	361.9	361.5	361.1
180°	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9

(END OF REPORT)