

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: P331672

Luminaire Tested: **SA2XXRDIP-C485D1080U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331672
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D1080U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

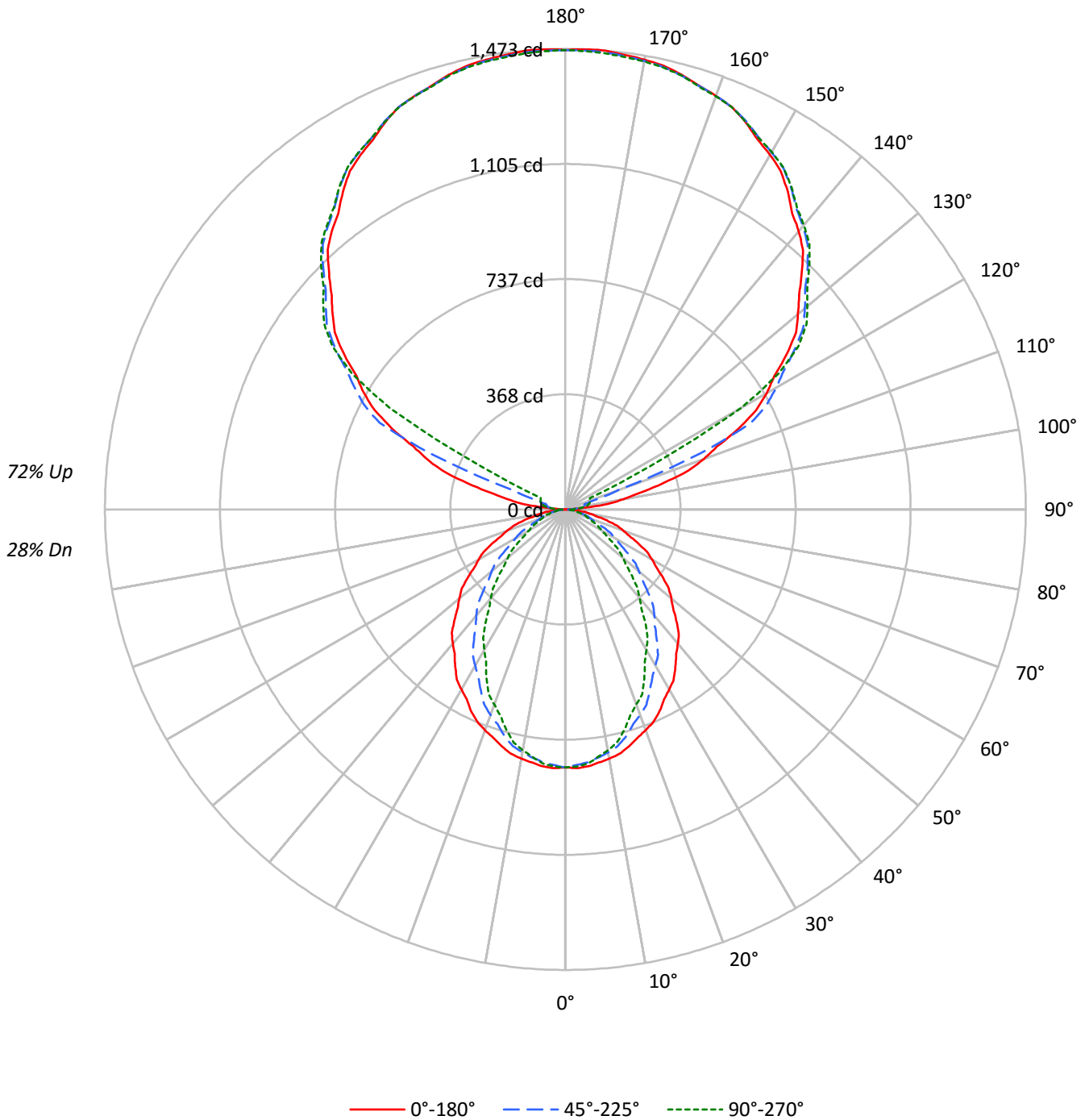
Lumens per Lamp: N/A
Luminaire Lumens: 6006.3 lumens
Efficiency: N/A
Efficacy: 121.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 49.4
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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	93	89	85	82	83	80	77	74	63	61	59	47	46	44	32	32	31	24
2	85	78	72	67	76	70	65	61	55	52	49	41	39	38	29	28	27	21
3	78	69	62	56	69	62	56	51	49	45	42	37	34	32	26	24	23	18
4	71	61	53	48	63	55	49	44	44	39	36	33	30	28	23	21	20	16
5	65	54	47	41	58	49	42	37	39	34	31	30	26	24	21	19	17	14
6	60	49	41	35	54	44	37	33	35	30	27	27	24	21	19	17	15	12
7	56	44	36	31	50	40	33	29	32	27	24	24	21	19	17	15	14	11
8	51	40	32	27	46	36	30	25	29	24	21	22	19	17	16	14	12	10
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9
10	45	33	26	22	40	30	24	20	24	20	17	19	16	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13324	13324	13324
5°	13374	13157	13230
10°	13273	12942	12832
15°	13120	12558	12197
20°	12909	12010	11407
25°	12693	11389	10644
30°	12392	10750	9663
35°	12100	10054	8803
40°	11805	9335	7807
45°	11460	8526	6907
50°	11105	7709	6021
55°	10742	6832	5171
60°	10320	5909	4292
65°	9845	4963	3908
70°	9272	4088	3597
75°	8571	3724	3356
80°	7569	3329	3059
85°	5947	2631	2631



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.2	1.3
10°-20°	212.1	3.5
20°-30°	297.8	5.0
30°-40°	324.8	5.4
40°-50°	298.6	5.0
50°-60°	234.5	3.9
60°-70°	152.9	2.5
70°-80°	78.8	1.3
80°-90°	24.1	0.4
90°-100°	49.0	0.8
100°-110°	179.7	3.0
110°-120°	480.4	8.0
120°-130°	793.0	13.2
130°-140°	843.3	14.0
140°-150°	783.8	13.1
150°-160°	630.2	10.5
160°-170°	406.1	6.8
170°-180°	139.8	2.3
0°-30°	587.2	9.8
0°-40°	912.0	15.2
0°-60°	1445.1	24.1
0°-90°	1701.0	28.3
90°-120°	709.1	11.8
90°-150°	3129.2	52.1
90°-180°	4305.0	71.7
0°-180°	6006.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	825	825	825	825	825	
5°	825	821	812	818	816	78
15°	785	776	751	738	730	221
25°	712	687	639	610	598	327
35°	614	574	510	465	447	384
45°	502	450	373	322	302	387
55°	382	322	243	200	184	341
65°	258	197	130	106	102	255
75°	137	87	60	55	54	145
85°	32	17	14	14	14	38
90°	1	13	21	26	29	5
95°	69	36	42	46	46	85
105°	323	337	65	76	81	345
115°	611	630	656	187	87	602
125°	864	878	898	906	909	770
135°	1069	1086	1096	1106	1104	826
145°	1241	1241	1258	1264	1260	776
155°	1366	1358	1369	1375	1367	629
165°	1439	1434	1436	1443	1436	406
175°	1472	1465	1467	1473	1464	140
180°	1469	1469	1469	1469	1469	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2
2.5°	828.2	827.6	826.9	826.2	825.6	824.5	823.1	821.6	820.1	818.7	820.0
5°	825.2	824.4	823.6	822.8	821.9	820.4	818.3	816.1	814.0	811.8	813.3
7.5°	816.7	815.7	814.7	813.6	812.6	810.8	808.3	805.8	803.3	800.8	801.2
10°	809.6	808.4	807.2	806.1	804.9	802.7	799.4	796.0	792.7	789.4	788.9
12.5°	800.6	799.2	797.7	796.3	794.9	792.1	787.8	783.6	779.3	775.1	774.2
15°	784.9	783.1	781.3	779.4	777.6	773.9	768.2	762.6	757.0	751.3	748.2
17.5°	765.7	762.9	760.1	757.3	754.5	749.5	742.3	735.0	727.8	720.5	716.8
20°	751.3	748.0	744.7	741.4	738.0	732.2	723.9	715.6	707.3	699.0	694.9
22.5°	735.8	732.1	728.3	724.6	720.9	714.4	705.0	695.6	686.3	676.9	671.6
25°	712.5	707.2	701.9	696.5	691.2	683.1	672.1	661.2	650.2	639.3	632.5
27.5°	684.4	678.6	672.8	667.1	661.3	652.2	639.9	627.5	615.2	602.8	594.9
30°	664.7	658.4	652.1	645.8	639.5	629.7	616.4	603.1	589.8	576.6	568.1
32.5°	645.6	638.2	630.8	623.5	616.1	605.6	592.1	578.5	565.0	551.5	541.8
35°	613.9	605.4	597.0	588.5	580.0	568.5	553.9	539.3	524.7	510.1	499.6
37.5°	582.2	572.9	563.6	554.3	545.1	532.6	517.1	501.5	485.9	470.4	458.8
40°	560.1	550.2	540.2	530.3	520.3	507.3	491.2	475.1	459.0	442.9	431.1
42.5°	537.4	526.9	516.4	506.0	495.5	481.9	465.3	448.6	432.0	415.4	403.2
45°	501.9	490.8	479.6	468.5	457.4	443.1	425.7	408.3	390.8	373.4	361.6
47.5°	467.2	455.4	443.7	431.9	420.1	405.2	387.2	369.2	351.2	333.2	321.5
50°	442.1	430.3	418.6	406.8	395.0	380.0	361.7	343.5	325.2	306.9	295.5
52.5°	417.6	405.3	393.0	380.7	368.4	353.3	335.4	317.6	299.7	281.9	270.8
55°	381.6	368.7	355.7	342.8	329.9	314.4	296.5	278.6	260.6	242.7	232.8
57.5°	344.7	331.5	318.2	304.9	291.6	276.4	259.2	241.9	224.7	207.5	198.3
60°	319.6	306.4	293.1	279.8	266.5	251.4	234.3	217.2	200.1	183.0	174.5
62.5°	295.1	281.9	268.6	255.3	242.0	227.3	211.0	194.7	178.4	162.1	154.0
65°	257.7	244.2	230.8	217.3	203.9	189.7	174.8	159.8	144.9	129.9	124.3
67.5°	221.5	208.2	194.8	181.5	168.1	154.7	141.3	127.9	114.4	101.0	98.4
70°	196.4	183.5	170.5	157.6	144.6	132.4	121.0	109.5	98.1	86.6	85.0
72.5°	172.5	160.1	147.7	135.3	122.9	112.1	102.9	93.7	84.5	75.3	73.9
75°	137.4	125.8	114.2	102.6	90.9	82.3	76.7	71.0	65.4	59.7	58.6
77.5°	102.9	92.7	82.5	72.3	62.2	55.7	53.0	50.3	47.5	44.8	44.1
80°	81.4	72.9	64.5	56.0	47.5	42.5	40.8	39.2	37.5	35.8	35.2
82.5°	61.7	55.1	48.5	41.9	35.3	31.4	30.3	29.1	28.0	26.9	26.5
85°	32.1	28.6	25.1	21.7	18.2	16.2	15.7	15.2	14.7	14.2	14.2
87.5°	9.8	9.2	8.7	8.1	7.6	7.5	7.9	8.3	8.7	9.0	9.1
90°	1.1	3.7	6.3	8.9	11.5	13.7	15.6	17.5	19.4	21.3	22.4
92.5°	21.5	21.2	21.0	20.8	20.5	20.9	21.8	22.8	23.7	24.7	25.3
95°	69.1	61.3	53.5	45.7	37.9	34.8	36.5	38.2	39.8	41.5	42.6
97.5°	137.1	115.2	93.2	71.2	49.3	40.2	44.0	47.8	51.7	55.5	56.4
100°	188.2	155.8	123.4	91.1	58.7	44.5	48.5	52.6	56.6	60.6	62.5
102.5°	244.3	237.4	230.6	223.7	216.9	196.7	163.1	129.5	95.9	62.3	64.8
105°	323.2	330.3	337.3	344.4	351.5	322.8	258.3	193.8	129.3	64.8	67.4
107.5°	413.1	418.8	424.5	430.2	436.0	400.2	322.8	245.5	168.1	90.8	88.1
110°	470.9	475.9	480.9	485.8	490.8	459.1	390.8	322.6	254.3	186.0	162.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	525.4	529.8	534.1	538.5	542.9	536.7	519.8	503.0	486.1	469.2	383.1
115°	611.3	615.3	619.3	623.3	627.3	632.3	638.2	644.1	650.0	655.9	546.5
117.5°	688.0	692.5	697.0	701.5	706.0	710.2	714.3	718.4	722.4	726.5	700.0
120°	744.1	747.7	751.2	754.8	758.3	762.2	766.5	770.7	775.0	779.2	782.0
122.5°	791.8	795.5	799.2	803.0	806.7	810.9	815.5	820.1	824.8	829.4	831.1
125°	864.3	867.3	870.4	873.5	876.5	880.3	884.8	889.3	893.8	898.3	899.9
127.5°	930.0	933.4	936.8	940.2	943.6	946.9	950.3	953.6	957.0	960.4	962.8
130°	971.6	975.4	979.2	983.0	986.7	989.9	992.5	995.1	997.7	1000.3	1002.9
132.5°	1014.1	1017.4	1020.6	1023.8	1027.0	1029.9	1032.5	1035.1	1037.7	1040.3	1042.5
135°	1069.4	1073.2	1077.0	1080.8	1084.5	1087.5	1089.6	1091.7	1093.9	1096.0	1098.4
137.5°	1125.3	1128.0	1130.6	1133.3	1135.9	1138.4	1140.9	1143.3	1145.7	1148.1	1150.4
140°	1161.9	1163.8	1165.7	1167.6	1169.5	1171.7	1174.3	1176.9	1179.5	1182.1	1184.2
142.5°	1192.5	1194.2	1195.9	1197.6	1199.3	1201.7	1204.6	1207.6	1210.6	1213.6	1215.5
145°	1240.6	1240.3	1240.1	1239.9	1239.6	1241.5	1245.5	1249.5	1253.6	1257.6	1259.2
147.5°	1282.5	1281.6	1280.7	1279.8	1278.9	1280.4	1284.4	1288.3	1292.3	1296.3	1297.5
150°	1309.7	1308.0	1306.4	1304.7	1303.1	1304.1	1307.9	1311.7	1315.5	1319.2	1320.7
152.5°	1332.6	1330.8	1328.9	1327.1	1325.3	1326.1	1329.7	1333.3	1336.9	1340.5	1341.9
155°	1366.0	1363.9	1361.8	1359.6	1357.5	1357.9	1360.7	1363.5	1366.4	1369.2	1370.6
157.5°	1392.2	1390.4	1388.6	1386.8	1385.0	1385.1	1387.1	1389.0	1391.0	1393.0	1394.6
160°	1407.5	1406.1	1404.6	1403.2	1401.8	1401.8	1403.2	1404.6	1406.1	1407.5	1408.9
162.5°	1421.1	1419.7	1418.2	1416.8	1415.4	1415.3	1416.5	1417.8	1419.0	1420.2	1421.8
165°	1439.4	1437.9	1436.5	1435.1	1433.7	1433.3	1434.0	1434.8	1435.5	1436.2	1437.8
167.5°	1453.0	1451.6	1450.1	1448.7	1447.3	1446.9	1447.6	1448.2	1448.9	1449.6	1451.2
170°	1460.6	1459.2	1457.8	1456.4	1455.0	1454.5	1455.0	1455.4	1455.9	1456.4	1458.0
172.5°	1465.7	1464.3	1462.9	1461.5	1460.1	1459.6	1460.1	1460.5	1461.0	1461.5	1463.1
175°	1472.3	1470.7	1469.0	1467.4	1465.7	1465.1	1465.6	1466.1	1466.5	1467.0	1468.7
177.5°	1473.4	1472.1	1470.7	1469.4	1468.1	1467.5	1467.7	1467.9	1468.1	1468.3	1469.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	825.2	825.2	825.2	825.2	825.2	825.2	825.2	825.2
2.5°	821.3	822.7	824.0	824.5	824.3	824.0	823.7	823.5
5°	814.8	816.3	817.8	818.3	817.8	817.3	816.8	816.3
7.5°	801.6	802.0	802.5	802.3	801.4	800.5	799.7	798.8
10°	788.4	787.9	787.4	786.7	785.7	784.7	783.7	782.7
12.5°	773.3	772.4	771.5	770.2	768.5	766.9	765.2	763.6
15°	745.0	741.9	738.7	736.3	734.6	733.0	731.3	729.7
17.5°	713.0	709.3	705.5	702.2	699.4	696.5	693.7	690.8
20°	690.7	686.6	682.4	678.5	674.9	671.2	667.6	663.9
22.5°	666.2	660.9	655.6	651.5	648.8	646.1	643.4	640.6
25°	625.7	618.9	612.1	607.4	604.9	602.4	600.0	597.5
27.5°	587.0	579.0	571.1	565.2	561.2	557.3	553.3	549.4
30°	559.6	551.2	542.7	536.2	531.7	527.3	522.8	518.3
32.5°	532.1	522.5	512.8	505.9	501.7	497.5	493.2	489.0
35°	489.2	478.7	468.3	461.2	457.6	453.9	450.3	446.6
37.5°	447.3	435.8	424.3	416.4	412.3	408.1	403.9	399.7
40°	419.3	407.5	395.7	387.7	383.4	379.1	374.7	370.4
42.5°	391.0	378.8	366.7	358.5	354.3	350.1	345.9	341.7
45°	349.8	338.1	326.3	318.4	314.4	310.4	306.4	302.5
47.5°	309.8	298.1	286.4	278.7	275.1	271.5	267.8	264.2
50°	284.0	272.6	261.1	253.7	250.2	246.7	243.2	239.7
52.5°	259.7	248.7	237.6	230.5	227.3	224.1	220.8	217.6
55°	222.8	212.8	202.9	196.3	193.2	190.0	186.9	183.7
57.5°	189.2	180.1	171.0	165.1	162.4	159.8	157.1	154.4
60°	166.0	157.6	149.1	143.6	140.9	138.2	135.6	132.9
62.5°	145.9	137.9	129.8	125.0	123.4	121.8	120.2	118.6
65°	118.7	113.0	107.4	104.3	103.8	103.3	102.8	102.3
67.5°	95.8	93.2	90.6	89.1	88.5	88.0	87.5	86.9
70°	83.3	81.7	80.0	78.8	78.2	77.5	76.8	76.2
72.5°	72.5	71.1	69.7	68.8	68.4	68.0	67.6	67.2
75°	57.4	56.3	55.1	54.4	54.3	54.1	53.9	53.8
77.5°	43.5	42.8	42.2	41.7	41.4	41.2	40.9	40.6
80°	34.5	33.9	33.2	32.9	32.9	32.9	32.9	32.9
82.5°	26.1	25.7	25.3	25.1	25.1	25.1	25.1	25.1
85°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
87.5°	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9
90°	23.6	24.8	26.0	26.8	27.3	27.8	28.2	28.7
92.5°	25.9	26.5	27.1	27.6	27.9	28.1	28.4	28.7
95°	43.8	45.0	46.2	46.7	46.4	46.2	45.9	45.7
97.5°	57.4	58.3	59.3	59.9	60.2	60.5	60.7	61.0
100°	64.4	66.3	68.2	69.3	69.8	70.3	70.8	71.2
102.5°	67.2	69.7	72.1	73.7	74.3	75.0	75.7	76.3
105°	70.0	72.6	75.2	77.0	78.0	78.9	79.8	80.8
107.5°	85.5	82.8	80.2	79.4	80.3	81.2	82.2	83.1
110°	138.8	115.2	91.5	80.2	81.1	82.1	83.0	84.0



TEST NUMBER: P331672

CATALOG NUMBER: SA2XXRDIP-C485D1080U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	296.9	210.7	124.5	81.8	82.6	83.3	84.1	84.8
115°	437.1	327.8	218.4	155.2	138.2	121.2	104.2	87.2
117.5°	673.6	647.1	620.7	579.5	523.6	467.7	411.8	355.9
120°	784.9	787.7	790.6	776.0	744.1	712.2	680.3	648.5
122.5°	832.8	834.5	836.2	833.9	827.8	821.6	815.4	809.2
125°	901.6	903.2	904.9	906.1	906.8	907.5	908.2	908.9
127.5°	965.2	967.6	970.0	971.3	971.4	971.6	971.7	971.8
130°	1005.5	1008.1	1010.7	1011.9	1011.7	1011.4	1011.2	1011.0
132.5°	1044.7	1047.0	1049.2	1050.2	1049.9	1049.7	1049.5	1049.2
135°	1100.7	1103.1	1105.4	1106.4	1105.9	1105.4	1105.0	1104.5
137.5°	1152.7	1155.0	1157.3	1158.1	1157.3	1156.5	1155.7	1154.9
140°	1186.4	1188.5	1190.6	1191.1	1189.9	1188.7	1187.5	1186.4
142.5°	1217.4	1219.4	1221.3	1221.7	1220.5	1219.3	1218.2	1217.0
145°	1260.9	1262.5	1264.2	1264.4	1263.3	1262.1	1260.9	1259.7
147.5°	1298.7	1300.0	1301.2	1301.3	1300.3	1299.3	1298.3	1297.3
150°	1322.1	1323.5	1324.9	1325.0	1323.8	1322.7	1321.5	1320.3
152.5°	1343.3	1344.8	1346.2	1346.1	1344.5	1343.0	1341.4	1339.9
155°	1372.0	1373.5	1374.9	1374.6	1372.7	1370.9	1369.0	1367.1
157.5°	1396.2	1397.8	1399.4	1399.3	1397.5	1395.6	1393.8	1391.9
160°	1410.3	1411.7	1413.1	1413.0	1411.4	1409.7	1408.1	1406.4
162.5°	1423.4	1425.0	1426.7	1426.4	1424.4	1422.4	1420.3	1418.3
165°	1439.5	1441.1	1442.8	1442.8	1441.1	1439.5	1437.8	1436.2
167.5°	1452.9	1454.5	1456.2	1455.9	1453.8	1451.7	1449.6	1447.4
170°	1459.7	1461.3	1463.0	1462.7	1460.6	1458.5	1456.4	1454.2
172.5°	1464.8	1466.4	1468.1	1467.9	1465.7	1463.6	1461.5	1459.3
175°	1470.3	1472.0	1473.6	1473.3	1470.9	1468.5	1466.2	1463.8
177.5°	1470.9	1472.2	1473.6	1473.4	1471.7	1470.0	1468.3	1466.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1

(END OF REPORT)