

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: P331744-930

Luminaire Tested: **SA2XXRDIP-C1005D530U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331744-930
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-C1005D530U930-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

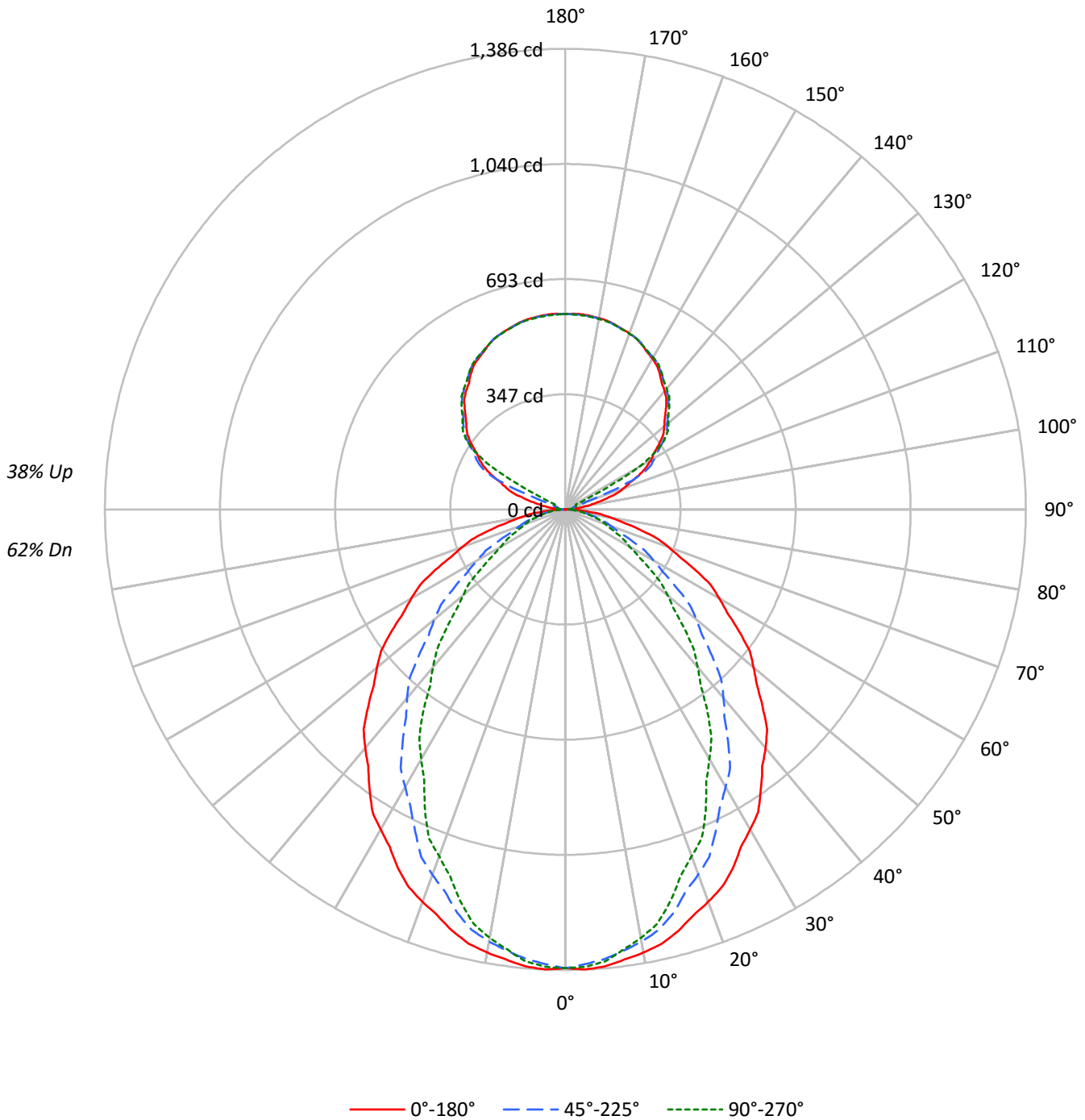
Lumens per Lamp: N/A
Luminaire Lumens: 4564.3 lumens
Efficiency: N/A
Efficacy: 82.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 55.1
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



TEST NUMBER: P331744-930
CATALOG NUMBER: SA2XXRDIP-C1005D530U930-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P331744-930

CATALOG NUMBER: SA2XXRDIP-C1005D530U930-4F0-1E-UDD-F

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62				
1	101	97	93	90	95	91	88	85	80	78	75	70	68	66	60	59	58	54				
2	93	85	79	74	87	80	75	71	71	67	63	62	59	56	54	52	50	46				
3	85	76	68	63	79	71	65	60	63	58	54	55	52	48	48	46	43	40				
4	78	67	60	54	73	64	57	51	56	51	47	50	46	42	44	40	38	34				
5	72	60	52	47	67	57	50	45	51	45	41	45	40	37	40	36	33	30				
6	66	55	47	41	62	52	44	39	46	40	36	41	36	33	36	32	30	27				
7	62	49	42	36	58	47	40	35	42	36	32	37	33	29	33	29	27	24				
8	57	45	37	32	54	43	36	31	39	33	29	34	30	26	31	27	24	22				
9	54	41	34	29	50	39	33	28	36	30	26	32	27	24	28	25	22	20				
10	50	38	31	26	47	36	30	25	33	27	23	30	25	22	26	23	20	18				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22291	22291	22291
5°	22376	22013	22135
10°	22207	21653	21469
15°	21951	21010	20404
20°	21596	20094	19086
25°	21235	19053	17808
30°	20734	17984	16168
35°	20243	16821	14728
40°	19751	15616	13061
45°	19173	14266	11556
50°	18580	12901	10073
55°	17973	11431	8653
60°	17270	9884	7182
65°	16466	8306	6541
70°	15512	6845	6014
75°	14342	6238	5608
80°	12664	5579	5114
85°	9948	4390	4390



TEST NUMBER: P331744-930

CATALOG NUMBER: SA2XXRDIP-C1005D530U930-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.2	2.8
10°-20°	354.8	7.8
20°-30°	498.3	10.9
30°-40°	543.4	11.9
40°-50°	499.6	10.9
50°-60°	392.4	8.6
60°-70°	255.8	5.6
70°-80°	131.9	2.9
80°-90°	35.7	0.8
90°-100°	19.6	0.4
100°-110°	71.9	1.6
110°-120°	192.3	4.2
120°-130°	317.4	7.0
130°-140°	337.5	7.4
140°-150°	313.7	6.9
150°-160°	252.2	5.5
160°-170°	162.5	3.6
170°-180°	55.9	1.2
0°-30°	982.4	21.5
0°-40°	1525.7	33.4
0°-60°	2417.7	53.0
0°-90°	2841.1	62.2
90°-120°	283.8	6.2
90°-150°	1252.5	27.4
90°-180°	1723.0	37.7
0°-180°	4564.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1381	1381	1381	1381	1381	
5°	1381	1374	1358	1369	1366	131
15°	1313	1298	1257	1234	1221	370
25°	1192	1150	1070	1020	1000	548
35°	1027	961	853	778	747	642
45°	840	753	625	539	506	648
55°	638	539	406	334	307	570
65°	431	329	217	177	171	427
75°	230	145	100	92	90	243
85°	54	29	24	24	24	63
90°	0	5	8	11	12	3
95°	28	15	17	19	18	34
105°	129	135	26	30	32	138
115°	245	252	262	75	35	241
125°	346	352	360	362	364	308
135°	428	435	439	443	442	330
145°	496	497	503	506	504	310
155°	547	543	548	550	547	252
165°	576	574	575	578	575	163
175°	589	586	587	590	586	56
180°	588	588	588	588	588	



TEST NUMBER: P331744-930

CATALOG NUMBER: SA2XXRDIP-C1005D530U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6
2.5°	1385.7	1384.5	1383.4	1382.3	1381.2	1379.4	1377.0	1374.6	1372.1	1369.7	1371.9
5°	1380.6	1379.2	1377.9	1376.5	1375.1	1372.6	1369.0	1365.4	1361.8	1358.2	1360.7
7.5°	1366.4	1364.7	1363.0	1361.2	1359.5	1356.6	1352.3	1348.1	1343.9	1339.7	1340.4
10°	1354.5	1352.5	1350.5	1348.6	1346.6	1342.9	1337.3	1331.8	1326.2	1320.7	1319.9
12.5°	1339.5	1337.0	1334.6	1332.3	1329.9	1325.1	1318.0	1310.9	1303.8	1296.7	1295.2
15°	1313.2	1310.1	1307.1	1304.0	1301.0	1294.7	1285.3	1275.9	1266.4	1256.9	1251.7
17.5°	1280.9	1276.3	1271.6	1267.0	1262.3	1253.9	1241.8	1229.7	1217.6	1205.5	1199.2
20°	1256.9	1251.4	1245.9	1240.3	1234.8	1225.1	1211.1	1197.3	1183.4	1169.5	1162.5
22.5°	1230.9	1224.7	1218.5	1212.4	1206.1	1195.1	1179.5	1163.8	1148.2	1132.5	1123.6
25°	1192.0	1183.1	1174.2	1165.3	1156.4	1142.9	1124.5	1106.2	1087.9	1069.5	1058.2
27.5°	1145.0	1135.4	1125.7	1116.1	1106.4	1091.2	1070.6	1049.9	1029.2	1008.6	995.3
30°	1112.1	1101.5	1091.0	1080.4	1069.8	1053.4	1031.2	1009.0	986.8	964.6	950.4
32.5°	1080.0	1067.7	1055.4	1043.1	1030.7	1013.3	990.6	967.9	945.3	922.6	906.4
35°	1027.0	1012.9	998.7	984.6	970.5	951.1	926.7	902.3	877.8	853.4	835.9
37.5°	974.1	958.5	943.0	927.4	911.9	891.1	865.0	839.0	812.9	786.9	767.7
40°	937.1	920.5	903.8	887.1	870.5	848.6	821.7	794.8	767.8	740.9	721.2
42.5°	899.1	881.6	864.1	846.4	828.9	806.2	778.4	750.6	722.8	695.0	674.6
45°	839.7	821.0	802.4	783.8	765.2	741.4	712.2	683.1	653.9	624.8	605.0
47.5°	781.6	762.0	742.2	722.5	702.8	677.9	647.8	617.7	587.6	557.5	537.9
50°	739.7	720.0	700.3	680.5	660.8	635.7	605.2	574.6	544.0	513.6	494.4
52.5°	698.7	678.1	657.5	636.9	616.3	591.1	561.2	531.3	501.4	471.6	453.1
55°	638.5	616.9	595.2	573.5	551.9	526.0	496.0	466.0	436.1	406.1	389.4
57.5°	576.7	554.6	532.3	510.1	487.9	462.4	433.6	404.7	375.9	347.1	331.8
60°	534.8	512.6	490.3	468.1	445.9	420.5	391.9	363.3	334.7	306.1	292.0
62.5°	493.8	471.6	449.4	427.1	405.0	380.2	352.9	325.6	298.4	271.2	257.6
65°	431.0	408.5	386.1	363.6	341.1	317.4	292.4	267.4	242.4	217.4	208.0
67.5°	370.6	348.3	326.0	303.6	281.3	258.9	236.4	213.9	191.4	168.9	164.6
70°	328.6	307.0	285.3	263.7	242.0	221.6	202.4	183.3	164.1	145.0	142.2
72.5°	288.6	267.8	247.1	226.3	205.5	187.4	172.1	156.7	141.3	126.0	123.6
75°	229.9	210.4	191.0	171.6	152.1	137.7	128.2	118.9	109.4	100.0	98.0
77.5°	172.2	155.2	138.1	121.1	104.0	93.2	88.6	84.1	79.5	75.0	73.9
80°	136.2	122.1	107.9	93.7	79.6	71.1	68.3	65.6	62.8	60.0	58.9
82.5°	103.2	92.1	81.1	70.0	59.0	52.5	50.6	48.8	46.9	45.0	44.4
85°	53.7	47.9	42.1	36.2	30.4	27.1	26.3	25.4	24.5	23.7	23.7
87.5°	16.1	14.5	13.0	11.3	9.8	9.1	9.2	9.4	9.5	9.7	9.5
90°	0.4	1.5	2.5	3.5	4.6	5.5	6.3	7.0	7.7	8.5	9.0
92.5°	8.6	8.5	8.4	8.3	8.2	8.4	8.7	9.1	9.5	9.9	10.1
95°	27.6	24.5	21.4	18.3	15.2	13.9	14.6	15.2	15.9	16.6	17.0
97.5°	54.9	46.1	37.3	28.5	19.7	16.1	17.6	19.2	20.7	22.2	22.6
100°	75.3	62.4	49.4	36.4	23.5	17.9	19.4	21.0	22.7	24.2	25.0
102.5°	97.8	95.1	92.3	89.5	86.8	78.7	65.3	51.9	38.4	24.9	25.9
105°	129.3	132.2	135.0	137.9	140.7	129.2	103.4	77.6	51.8	25.9	27.0
107.5°	165.3	167.6	169.9	172.2	174.5	160.1	129.2	98.2	67.3	36.4	35.3
110°	188.5	190.5	192.5	194.4	196.4	183.8	156.5	129.1	101.7	74.4	65.0



TEST NUMBER: P331744-930

CATALOG NUMBER: SA2XXRDIP-C1005D530U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.3	212.1	213.8	215.6	217.3	214.8	208.1	201.3	194.5	187.8	153.3
115°	244.7	246.2	247.9	249.5	251.1	253.1	255.4	257.8	260.2	262.5	218.7
117.5°	275.4	277.2	279.0	280.8	282.6	284.3	285.9	287.6	289.2	290.7	280.2
120°	297.8	299.2	300.7	302.1	303.5	305.1	306.8	308.5	310.1	311.9	313.0
122.5°	316.9	318.4	319.9	321.4	322.9	324.6	326.4	328.2	330.1	332.0	332.6
125°	345.9	347.2	348.4	349.6	350.8	352.4	354.2	356.0	357.8	359.5	360.2
127.5°	372.2	373.6	375.0	376.3	377.6	379.0	380.3	381.7	383.0	384.4	385.3
130°	388.9	390.4	391.9	393.5	394.9	396.2	397.3	398.3	399.3	400.4	401.5
132.5°	405.9	407.2	408.5	409.8	411.1	412.2	413.3	414.3	415.3	416.4	417.3
135°	428.0	429.6	431.0	432.6	434.1	435.3	436.1	437.0	437.8	438.6	439.6
137.5°	450.5	451.4	452.5	453.6	454.6	455.7	456.6	457.6	458.5	459.5	460.5
140°	465.0	465.8	466.6	467.3	468.1	469.0	470.0	471.1	472.1	473.1	474.0
142.5°	477.3	478.0	478.7	479.3	480.0	480.9	482.2	483.3	484.5	485.8	486.5
145°	496.5	496.4	496.4	496.3	496.2	496.9	498.6	500.1	501.7	503.4	504.0
147.5°	513.3	512.9	512.6	512.3	511.8	512.5	514.0	515.7	517.2	518.9	519.3
150°	524.2	523.5	522.9	522.2	521.5	522.0	523.5	525.0	526.5	528.0	528.6
152.5°	533.4	532.6	531.9	531.2	530.4	530.8	532.2	533.7	535.1	536.5	537.1
155°	546.7	545.9	545.0	544.2	543.3	543.5	544.6	545.8	546.9	548.0	548.6
157.5°	557.2	556.5	555.8	555.1	554.3	554.4	555.1	556.0	556.8	557.6	558.2
160°	563.4	562.8	562.2	561.7	561.1	561.1	561.7	562.2	562.8	563.4	563.9
162.5°	568.8	568.2	567.6	567.0	566.6	566.5	567.0	567.4	567.9	568.4	569.1
165°	576.1	575.5	574.9	574.4	573.8	573.7	574.0	574.2	574.5	574.8	575.5
167.5°	581.6	581.0	580.4	579.8	579.3	579.1	579.4	579.7	579.9	580.2	580.8
170°	584.6	584.1	583.5	582.9	582.4	582.1	582.4	582.5	582.7	582.9	583.6
172.5°	586.7	586.1	585.5	585.0	584.4	584.2	584.4	584.6	584.7	585.0	585.6
175°	589.3	588.6	588.0	587.3	586.6	586.4	586.6	586.8	586.9	587.2	587.8
177.5°	589.7	589.2	588.6	588.2	587.6	587.3	587.4	587.5	587.6	587.7	588.2
180°	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0



TEST NUMBER: P331744-930

CATALOG NUMBER: SA2XXRDIP-C1005D530U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6
2.5°	1374.1	1376.3	1378.6	1379.4	1379.0	1378.6	1378.1	1377.7
5°	1363.2	1365.7	1368.2	1369.0	1368.2	1367.3	1366.5	1365.7
7.5°	1341.1	1341.8	1342.6	1342.2	1340.8	1339.3	1337.9	1336.4
10°	1319.0	1318.2	1317.4	1316.1	1314.4	1312.8	1311.1	1309.5
12.5°	1293.7	1292.2	1290.7	1288.6	1285.8	1283.0	1280.3	1277.5
15°	1246.4	1241.1	1235.8	1231.8	1229.1	1226.3	1223.5	1220.7
17.5°	1192.9	1186.7	1180.4	1174.8	1170.1	1165.3	1160.5	1155.8
20°	1155.6	1148.7	1141.7	1135.2	1129.1	1123.0	1116.9	1110.8
22.5°	1114.7	1105.7	1096.7	1090.0	1085.5	1080.9	1076.4	1071.8
25°	1046.8	1035.4	1024.0	1016.3	1012.0	1007.9	1003.7	999.6
27.5°	982.0	968.7	955.4	945.5	938.9	932.3	925.7	919.1
30°	936.3	922.1	907.9	897.2	889.7	882.2	874.7	867.2
32.5°	890.3	874.2	857.9	846.4	839.4	832.3	825.2	818.2
35°	818.4	801.0	783.4	771.6	765.5	759.4	753.3	747.2
37.5°	748.4	729.1	709.8	696.7	689.7	682.7	675.7	668.7
40°	701.5	681.8	662.1	648.7	641.4	634.1	627.0	619.7
42.5°	654.2	633.8	613.4	599.7	592.7	585.7	578.8	571.8
45°	585.3	565.6	545.8	532.7	526.0	519.3	512.7	506.1
47.5°	518.3	498.7	479.1	466.3	460.2	454.2	448.1	442.1
50°	475.2	456.1	436.9	424.4	418.6	412.7	406.9	401.0
52.5°	434.6	416.0	397.6	385.6	380.3	374.9	369.5	364.1
55°	372.8	356.1	339.4	328.5	323.2	317.9	312.7	307.4
57.5°	316.6	301.3	286.0	276.1	271.7	267.3	262.9	258.4
60°	277.8	263.7	249.5	240.2	235.7	231.3	226.8	222.4
62.5°	244.2	230.6	217.2	209.0	206.4	203.7	201.1	198.4
65°	198.5	189.1	179.6	174.5	173.7	172.8	172.0	171.2
67.5°	160.3	156.0	151.6	149.0	148.1	147.2	146.3	145.4
70°	139.4	136.6	133.9	131.9	130.8	129.6	128.6	127.4
72.5°	121.3	119.0	116.6	115.1	114.5	113.8	113.1	112.4
75°	96.0	94.2	92.2	91.1	90.8	90.5	90.3	89.9
77.5°	72.7	71.7	70.5	69.7	69.3	68.9	68.4	68.0
80°	57.7	56.7	55.5	55.0	55.0	55.0	55.0	55.0
82.5°	43.6	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7
87.5°	9.5	9.3	9.2	9.1	9.2	9.2	9.3	9.3
90°	9.5	9.9	10.4	10.8	10.9	11.1	11.3	11.5
92.5°	10.4	10.6	10.8	11.0	11.2	11.3	11.4	11.5
95°	17.5	18.0	18.5	18.7	18.6	18.5	18.4	18.3
97.5°	23.0	23.3	23.7	24.0	24.1	24.2	24.3	24.5
100°	25.8	26.5	27.3	27.7	28.0	28.1	28.3	28.5
102.5°	26.9	27.9	28.9	29.5	29.8	30.0	30.2	30.6
105°	28.0	29.1	30.1	30.8	31.2	31.6	32.0	32.4
107.5°	34.2	33.2	32.1	31.8	32.1	32.5	32.9	33.3
110°	55.5	46.1	36.6	32.1	32.4	32.9	33.3	33.6



TEST NUMBER: P331744-930

CATALOG NUMBER: SA2XXRDIP-C1005D530U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	118.8	84.3	49.8	32.8	33.0	33.3	33.7	33.9
115°	175.0	131.2	87.4	62.1	55.3	48.5	41.7	34.9
117.5°	269.6	259.0	248.4	232.0	209.5	187.2	164.9	142.4
120°	314.1	315.3	316.4	310.6	297.8	285.1	272.3	259.5
122.5°	333.3	334.0	334.7	333.8	331.3	328.8	326.4	323.8
125°	360.9	361.5	362.2	362.6	363.0	363.2	363.5	363.8
127.5°	386.3	387.3	388.2	388.7	388.8	388.9	388.9	389.0
130°	402.4	403.5	404.6	405.0	404.9	404.8	404.7	404.6
132.5°	418.2	419.1	420.0	420.3	420.2	420.1	420.0	420.0
135°	440.6	441.5	442.5	442.9	442.6	442.5	442.3	442.1
137.5°	461.4	462.3	463.3	463.5	463.2	462.8	462.6	462.3
140°	474.8	475.6	476.5	476.7	476.2	475.8	475.3	474.8
142.5°	487.3	488.0	488.9	489.0	488.5	488.0	487.5	487.1
145°	504.7	505.3	506.0	506.1	505.6	505.2	504.7	504.2
147.5°	519.8	520.3	520.8	520.8	520.5	520.1	519.7	519.3
150°	529.1	529.7	530.3	530.4	529.9	529.4	528.9	528.5
152.5°	537.7	538.3	538.8	538.7	538.2	537.5	536.9	536.3
155°	549.2	549.8	550.3	550.2	549.4	548.7	548.0	547.1
157.5°	558.8	559.5	560.1	560.1	559.3	558.6	557.8	557.1
160°	564.4	565.0	565.6	565.6	564.9	564.3	563.5	562.9
162.5°	569.7	570.4	571.0	571.0	570.1	569.3	568.5	567.7
165°	576.2	576.8	577.5	577.5	576.8	576.2	575.5	574.8
167.5°	581.5	582.2	582.9	582.8	581.9	581.1	580.2	579.4
170°	584.2	584.9	585.5	585.5	584.6	583.8	582.9	582.0
172.5°	586.3	586.9	587.6	587.5	586.7	585.8	585.0	584.1
175°	588.5	589.1	589.8	589.7	588.7	587.7	586.9	585.9
177.5°	588.7	589.3	589.8	589.7	589.1	588.3	587.7	587.0
180°	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0

(END OF REPORT)