

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: P331739-930

Luminaire Tested: **SA2XXRDIP-C1005D330U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331739-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C1005D330U930-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3795.5 lumens
Efficiency: N/A
Efficacy: 76.2 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

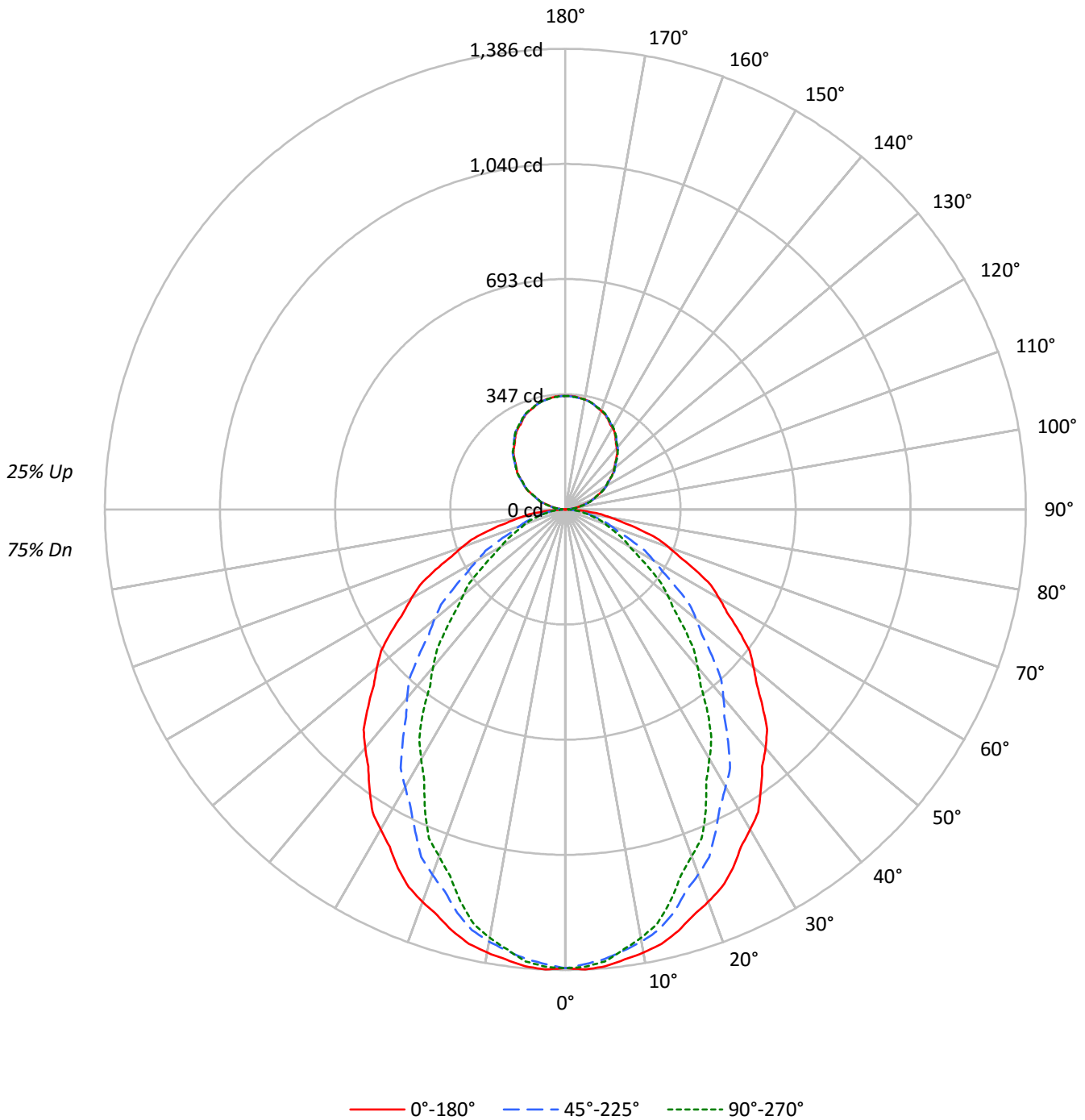
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	113	113	113	108	108	108	108	97	97	97	88	88	88	79	79	79	75
1	104	100	96	93	99	95	92	89	86	84	81	78	76	75	71	69	68	64
2	95	88	82	77	91	84	79	74	77	72	69	70	66	63	63	61	58	55
3	88	78	71	65	83	75	68	63	68	63	59	62	58	55	57	53	51	48
4	81	70	62	56	76	67	60	54	61	55	51	56	51	47	51	47	44	41
5	74	63	55	49	71	60	53	47	55	49	44	51	46	42	47	42	39	36
6	69	57	49	43	65	54	47	42	50	44	39	46	41	37	43	38	35	32
7	64	52	44	38	61	50	42	37	46	40	35	42	37	33	39	35	31	29
8	60	47	39	34	57	45	38	33	42	36	32	39	34	30	36	32	28	26
9	56	43	36	31	53	42	35	30	39	33	29	36	31	27	33	29	26	24
10	52	40	33	28	50	39	32	27	36	30	26	34	28	25	31	27	24	22

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.2	3.4
10°-20°	354.8	9.3
20°-30°	498.3	13.1
30°-40°	543.4	14.3
40°-50°	499.6	13.2
50°-60°	392.4	10.3
60°-70°	255.8	6.7
70°-80°	131.9	3.5
80°-90°	35.6	0.9
90°-100°	21.6	0.6
100°-110°	67.2	1.8
110°-120°	114.8	3.0
120°-130°	151.0	4.0
130°-140°	169.5	4.5
140°-150°	166.2	4.4
150°-160°	139.4	3.7
160°-170°	92.4	2.4
170°-180°	32.3	0.9
0°-30°	982.4	25.9
0°-40°	1525.7	40.2
0°-60°	2417.7	63.7
0°-90°	2841.1	74.9
90°-120°	203.6	5.4
90°-150°	690.3	18.2
90°-180°	954.0	25.1
0°-180°	3795.5	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	4	10	10	10	3
95°	15	18	18	18	18	17
105°	62	63	63	64	64	65
115°	115	117	116	116	115	114
125°	168	170	169	168	168	150
135°	217	220	221	220	220	168
145°	263	265	267	267	266	164
155°	301	302	303	304	303	138
165°	328	327	327	329	328	92
175°	341	340	339	341	340	32
180°	341	341	341	341	341	



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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	14.4	12.8	11.2	9.5	8.9	9.1	9.5	9.7	10.0	9.8
90°	0.3	1.1	1.8	2.6	3.3	4.5	5.9	7.3	8.6	10.1	9.9
92.5°	5.1	5.7	6.3	6.8	7.4	7.8	8.2	8.5	8.8	9.1	9.2
95°	15.0	15.7	16.2	16.9	17.5	17.9	18.0	18.2	18.3	18.4	18.4
97.5°	27.4	28.0	28.5	29.0	29.6	30.0	30.2	30.5	30.7	31.0	31.0
100°	36.6	37.1	37.6	38.2	38.6	39.0	39.1	39.4	39.5	39.8	39.8
102.5°	46.2	46.6	47.0	47.5	47.9	48.3	48.4	48.7	48.9	49.2	49.2
105°	62.0	62.1	62.3	62.5	62.7	62.9	63.0	63.1	63.3	63.3	63.5
107.5°	77.7	78.0	78.3	78.6	78.8	79.0	79.0	79.0	79.0	79.0	79.0
110°	87.9	88.2	88.6	89.0	89.4	89.6	89.6	89.6	89.6	89.6	89.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	98.9	99.3	99.7	100.0	100.4	100.6	100.5	100.5	100.4	100.4	100.3
115°	115.2	115.6	116.0	116.3	116.8	116.9	116.8	116.6	116.5	116.3	116.3
117.5°	131.4	132.0	132.5	133.0	133.5	133.6	133.2	132.9	132.5	132.2	132.0
120°	142.3	142.8	143.3	143.8	144.3	144.3	143.8	143.3	142.8	142.3	142.3
122.5°	152.2	152.8	153.4	154.0	154.7	154.8	154.4	154.1	153.7	153.4	153.2
125°	167.6	168.2	168.8	169.3	169.9	170.2	169.9	169.7	169.6	169.3	169.2
127.5°	182.7	183.4	184.2	184.8	185.6	185.8	185.6	185.4	185.2	184.9	184.7
130°	192.2	193.0	193.8	194.6	195.4	195.8	195.7	195.6	195.4	195.3	195.2
132.5°	202.8	203.4	204.1	204.7	205.5	205.8	205.8	205.9	205.9	205.9	205.6
135°	216.9	217.6	218.3	219.0	219.7	220.1	220.3	220.4	220.5	220.6	220.5
137.5°	231.8	232.4	232.9	233.6	234.2	234.5	234.6	234.8	235.0	235.1	235.1
140°	240.8	241.4	242.0	242.6	243.1	243.5	243.9	244.2	244.5	244.8	244.8
142.5°	250.1	250.6	251.2	251.8	252.3	252.7	252.9	253.2	253.4	253.6	253.6
145°	263.3	263.7	264.2	264.6	265.1	265.5	265.9	266.3	266.6	267.0	267.1
147.5°	275.1	275.7	276.1	276.7	277.2	277.6	277.9	278.2	278.4	278.7	278.8
150°	283.2	283.6	283.9	284.3	284.7	285.0	285.3	285.5	285.8	286.0	286.3
152.5°	290.3	290.7	291.1	291.5	291.8	292.2	292.4	292.8	293.1	293.4	293.7
155°	301.0	301.2	301.4	301.6	301.7	302.0	302.1	302.3	302.6	302.7	303.0
157.5°	310.1	310.3	310.4	310.5	310.7	310.8	311.0	311.0	311.1	311.3	311.7
160°	315.7	315.8	315.9	316.1	316.2	316.3	316.3	316.4	316.5	316.6	316.9
162.5°	320.7	320.8	320.8	320.8	320.9	320.9	321.0	321.1	321.1	321.1	321.6
165°	327.5	327.4	327.3	327.3	327.3	327.2	327.2	327.2	327.2	327.2	327.7
167.5°	333.1	333.0	332.8	332.6	332.4	332.3	332.2	332.2	332.2	332.2	332.6
170°	336.1	336.0	335.7	335.6	335.4	335.3	335.2	335.1	335.1	335.0	335.4
172.5°	338.2	338.0	337.9	337.6	337.5	337.3	337.3	337.2	337.1	337.0	337.5
175°	340.8	340.6	340.4	340.1	340.0	339.8	339.7	339.6	339.4	339.3	339.7
177.5°	341.8	341.6	341.4	341.4	341.2	341.0	341.0	340.9	340.7	340.6	341.0
180°	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4



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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	9.0	8.9	8.9	9.0	9.0	9.0
90°	9.9	9.7	9.5	9.5	9.6	9.7	9.7	9.8
92.5°	9.2	9.2	9.3	9.3	9.3	9.3	9.3	9.3
95°	18.4	18.4	18.4	18.3	18.3	18.1	18.0	17.9
97.5°	31.0	31.0	31.0	31.0	31.0	31.0	31.0	30.9
100°	39.8	39.8	39.8	39.7	39.6	39.6	39.5	39.5
102.5°	49.3	49.3	49.4	49.4	49.3	49.2	49.2	49.2
105°	63.6	63.8	63.9	63.9	63.9	63.9	63.9	63.9
107.5°	79.1	79.2	79.2	79.1	78.8	78.5	78.2	77.9
110°	89.6	89.6	89.6	89.5	89.3	89.1	88.9	88.7



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CATALOG NUMBER: SA2XXRDIP-C1005D330U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	100.1	100.0	99.8	99.6	99.5	99.4	99.2	99.1
115°	116.3	116.2	116.1	116.0	115.8	115.6	115.4	115.2
117.5°	131.8	131.7	131.5	131.3	131.2	131.0	130.8	130.6
120°	142.3	142.3	142.3	142.2	142.0	141.8	141.6	141.5
122.5°	153.0	152.9	152.7	152.6	152.5	152.3	152.1	152.1
125°	169.0	168.8	168.6	168.4	168.4	168.4	168.3	168.2
127.5°	184.5	184.3	184.0	183.8	183.6	183.4	183.2	183.0
130°	195.0	194.9	194.8	194.6	194.4	194.0	193.8	193.6
132.5°	205.3	205.0	204.8	204.6	204.3	204.2	203.9	203.7
135°	220.5	220.5	220.4	220.3	220.0	219.9	219.7	219.5
137.5°	235.1	235.0	235.0	234.8	234.6	234.3	234.1	233.7
140°	244.8	244.8	244.8	244.7	244.4	244.2	243.9	243.7
142.5°	253.7	253.7	253.8	253.7	253.5	253.2	252.9	252.7
145°	267.2	267.2	267.3	267.2	266.9	266.7	266.4	266.1
147.5°	278.9	279.1	279.2	279.2	278.9	278.7	278.4	278.2
150°	286.4	286.6	286.8	286.8	286.6	286.4	286.3	286.0
152.5°	293.9	294.2	294.4	294.4	294.2	293.9	293.7	293.4
155°	303.4	303.7	304.0	304.1	303.9	303.7	303.5	303.3
157.5°	312.1	312.6	313.0	313.1	312.7	312.4	312.2	311.9
160°	317.3	317.7	318.1	318.1	317.9	317.6	317.4	317.2
162.5°	322.0	322.5	322.9	322.9	322.7	322.4	322.0	321.7
165°	328.1	328.6	329.0	329.1	328.7	328.4	328.1	327.8
167.5°	333.1	333.5	334.0	334.1	333.8	333.4	333.0	332.7
170°	335.9	336.3	336.8	336.8	336.5	336.1	335.7	335.3
172.5°	337.9	338.4	338.8	338.9	338.5	338.1	337.8	337.4
175°	340.2	340.6	341.1	341.1	340.8	340.4	340.0	339.6
177.5°	341.3	341.5	341.9	341.9	341.5	341.3	341.0	340.6
180°	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4

(END OF REPORT)