

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: P331485-930

Luminaire Tested: **S122DIW-S290D1240U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331485-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D1240U930-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5017.5 lumens
Efficiency: N/A
Efficacy: 107.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

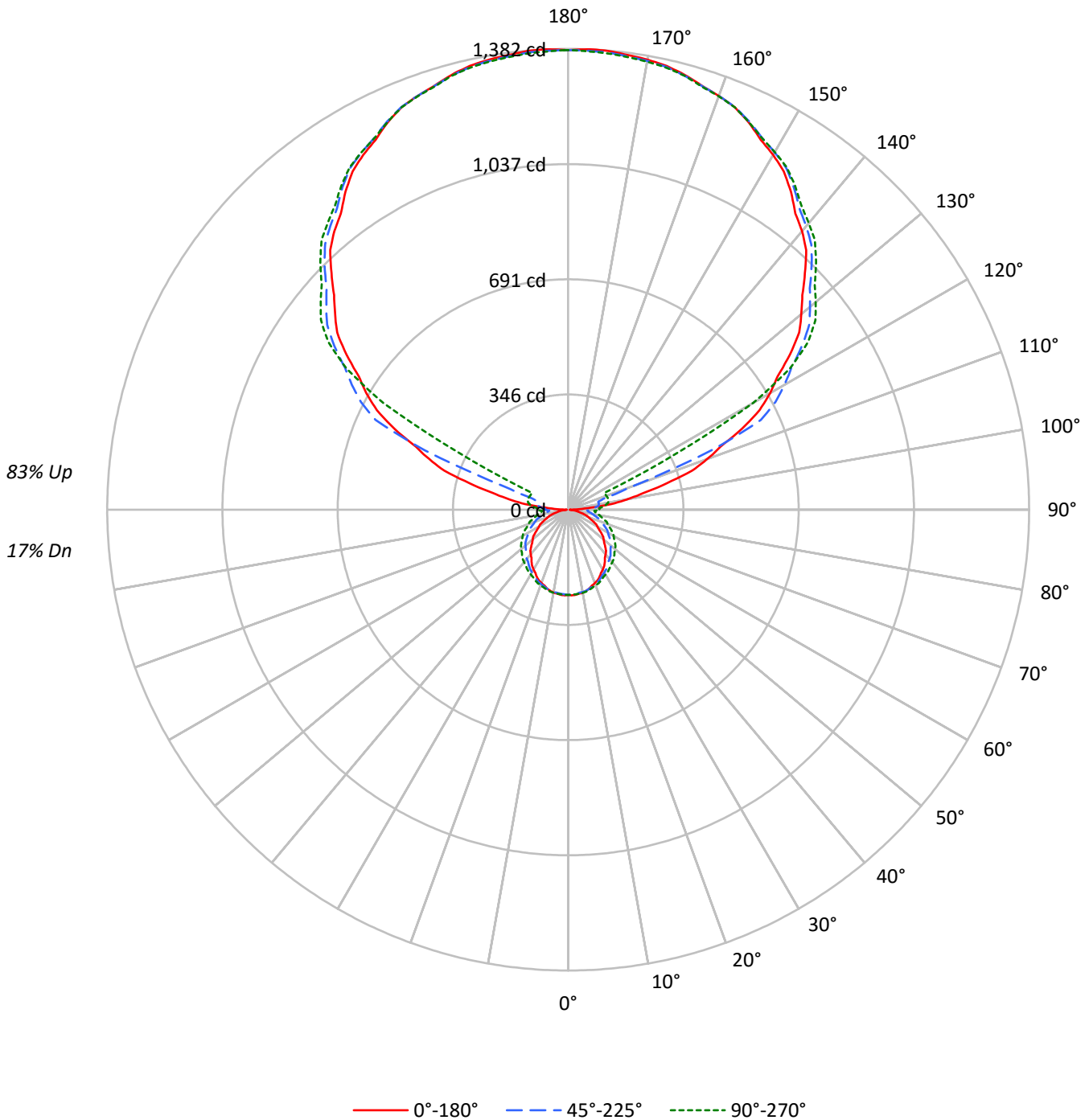
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17
1	90	86	82	78	79	75	72	69	56	54	52	38	37	36	22	22	21	13
2	82	74	68	63	71	65	60	56	49	45	43	33	31	30	19	18	17	11
3	74	65	58	52	65	57	51	47	43	39	35	29	27	25	17	15	14	9
4	68	57	50	44	59	51	44	39	38	33	30	26	23	21	15	13	12	8
5	62	51	43	37	54	45	38	33	34	29	25	23	20	18	13	12	10	6
6	57	45	37	32	50	40	33	29	30	25	22	21	18	15	12	10	9	6
7	52	41	33	28	46	36	29	25	27	22	19	19	16	14	11	9	8	5
8	48	37	29	24	42	32	26	22	24	20	17	17	14	12	10	8	7	4
9	45	33	26	21	39	29	23	19	22	18	15	16	13	11	9	8	6	4
10	42	30	23	19	37	27	21	17	20	16	13	14	11	9	8	7	6	4

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4127	4127	4127
5°	4146	3973	3957
10°	4121	3855	3812
15°	4063	3730	3659
20°	3992	3597	3511
25°	3922	3468	3376
30°	3821	3336	3241
35°	3720	3209	3148
40°	3615	3101	3051
45°	3512	3004	2971
50°	3404	2917	2891
55°	3289	2822	2810
60°	3151	2723	2724
65°	3006	2608	2622
70°	2844	2485	2512
75°	2639	2365	2410
80°	2312	2240	2305
85°	2005	2134	2226



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.2	0.5
10°-20°	69.4	1.4
20°-30°	105.2	2.1
30°-40°	128.2	2.6
40°-50°	137.9	2.7
50°-60°	133.9	2.7
60°-70°	116.9	2.3
70°-80°	90.0	1.8
80°-90°	63.8	1.3
90°-100°	87.6	1.7
100°-110°	199.0	4.0
110°-120°	470.8	9.4
120°-130°	755.2	15.1
130°-140°	795.9	15.9
140°-150°	736.2	14.7
150°-160°	591.2	11.8
160°-170°	381.0	7.6
170°-180°	131.1	2.6
0°-30°	198.9	4.0
0°-40°	327.1	6.5
0°-60°	598.8	11.9
0°-90°	869.6	17.3
90°-120°	757.3	15.1
90°-150°	3044.6	60.7
90°-180°	4148.0	82.7
0°-180°	5017.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	256	256	256	256	256	
5°	256	255	253	255	255	24
15°	244	245	245	248	248	69
25°	222	225	228	232	234	102
35°	192	198	205	213	216	120
45°	157	167	180	191	195	121
55°	120	134	153	166	171	108
65°	82	101	122	137	142	82
75°	46	66	90	105	111	48
85°	13	36	60	75	81	14
90°	5	37	69	88	95	6
95°	68	55	81	100	104	82
105°	305	329	93	116	125	326
115°	575	597	638	208	119	566
125°	812	826	855	872	879	723
135°	1004	1020	1032	1049	1051	775
145°	1164	1164	1180	1188	1186	728
155°	1282	1274	1285	1290	1282	590
165°	1350	1345	1347	1354	1347	381
175°	1381	1375	1376	1382	1373	131
180°	1378	1378	1378	1378	1378	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	257.1	256.8	256.7	256.4	256.2	255.9	255.4	255.0	254.5	254.0	254.4
5°	256.3	256.1	255.8	255.6	255.3	254.9	254.5	254.0	253.5	253.0	253.5
7.5°	254.0	253.8	253.6	253.5	253.3	253.1	252.7	252.3	251.9	251.5	252.2
10°	252.3	252.1	251.9	251.8	251.6	251.4	251.1	250.9	250.6	250.4	251.0
12.5°	249.2	249.3	249.3	249.4	249.4	249.3	249.2	249.0	248.7	248.6	249.2
15°	244.4	244.6	244.8	244.9	245.1	245.2	245.2	245.2	245.2	245.2	245.9
17.5°	238.2	238.6	238.9	239.3	239.6	239.9	240.2	240.4	240.7	241.0	241.7
20°	234.1	234.5	234.9	235.3	235.7	236.1	236.4	236.8	237.1	237.4	238.3
22.5°	229.7	230.1	230.6	231.1	231.5	232.0	232.4	232.9	233.4	233.8	234.7
25°	222.3	222.8	223.4	224.0	224.5	225.2	225.9	226.7	227.4	228.1	229.1
27.5°	213.4	214.3	215.2	216.1	217.1	218.0	218.8	219.7	220.6	221.5	222.7
30°	207.4	208.5	209.5	210.6	211.7	212.8	213.9	214.9	216.0	217.0	218.3
32.5°	200.9	202.1	203.3	204.5	205.7	206.9	208.2	209.5	210.8	212.0	213.5
35°	191.5	192.9	194.3	195.7	197.1	198.5	200.2	201.7	203.3	204.8	206.6
37.5°	181.2	182.9	184.5	186.1	187.7	189.6	191.6	193.6	195.6	197.6	199.7
40°	174.5	176.3	178.1	179.9	181.6	183.7	185.9	188.2	190.4	192.6	194.7
42.5°	168.0	169.7	171.5	173.3	175.2	177.3	179.9	182.5	185.0	187.5	189.9
45°	157.0	159.2	161.5	163.7	165.9	168.4	171.4	174.2	177.1	180.0	182.5
47.5°	146.3	148.7	151.2	153.5	156.0	158.9	162.2	165.6	169.0	172.4	175.0
50°	138.9	141.5	144.0	146.5	149.1	152.2	156.0	159.6	163.3	167.1	169.8
52.5°	131.8	134.4	137.1	139.8	142.5	145.8	149.7	153.6	157.5	161.4	164.3
55°	120.3	123.4	126.3	129.2	132.2	135.8	140.1	144.4	148.7	153.0	156.0
57.5°	109.1	112.4	115.8	119.1	122.5	126.3	130.7	135.0	139.4	143.8	147.0
60°	101.1	104.7	108.2	111.7	115.3	119.4	124.1	128.7	133.5	138.1	141.3
62.5°	94.0	97.7	101.3	105.0	108.7	112.8	117.6	122.2	126.9	131.7	134.9
65°	82.2	86.3	90.3	94.3	98.3	102.8	107.6	112.5	117.4	122.2	125.6
67.5°	71.4	75.7	79.8	84.1	88.3	92.9	97.8	102.8	107.8	112.8	116.2
70°	63.7	68.0	72.2	76.6	80.8	85.5	90.6	95.7	100.9	105.9	109.5
72.5°	56.6	61.0	65.4	69.8	74.3	79.0	84.2	89.4	94.6	99.7	103.2
75°	45.6	50.1	54.8	59.4	64.0	68.9	74.2	79.5	84.7	90.0	93.5
77.5°	34.9	39.7	44.5	49.3	54.2	59.3	64.7	70.0	75.3	80.6	84.2
80°	27.8	32.8	37.8	42.8	47.9	53.1	58.4	63.8	69.1	74.4	77.9
82.5°	21.9	26.8	31.8	36.7	41.7	46.9	52.3	57.7	63.1	68.5	72.0
85°	13.4	18.4	23.6	28.6	33.8	38.9	44.2	49.5	54.7	60.0	63.4
87.5°	7.4	12.9	18.3	23.6	29.0	34.6	40.2	45.8	51.4	57.0	60.6
90°	4.7	11.9	19.2	26.3	33.5	40.7	47.7	54.8	61.8	68.8	73.2
92.5°	23.6	27.8	32.0	36.2	40.4	45.5	51.5	57.5	63.4	69.4	73.1
95°	67.8	64.3	60.9	57.5	54.0	55.5	62.0	68.5	75.0	81.4	85.7
97.5°	131.3	114.1	96.9	79.7	62.5	58.1	66.4	74.8	83.2	91.5	95.4
100°	179.1	151.8	124.5	97.2	69.9	60.4	68.7	77.1	85.5	93.9	98.7
102.5°	231.5	227.9	224.2	220.5	216.9	201.5	174.6	147.5	120.4	93.4	98.7
105°	305.0	314.1	323.1	332.2	341.2	317.6	261.4	205.1	148.9	92.7	98.0
107.5°	389.3	396.6	403.9	411.2	418.4	387.8	319.4	250.9	182.5	114.0	114.3
110°	443.3	449.6	455.9	462.2	468.5	441.6	381.6	321.6	261.5	201.5	182.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	494.4	499.9	505.4	510.9	516.4	513.1	501.2	489.2	477.2	465.2	386.9
115°	574.9	579.6	584.3	589.0	593.6	600.6	609.8	619.1	628.4	637.6	537.4
117.5°	646.6	651.3	656.2	661.0	665.8	671.8	679.1	686.3	693.5	700.7	678.3
120°	699.2	702.9	706.5	710.2	713.9	719.3	726.6	733.9	741.2	748.4	753.4
122.5°	743.9	747.5	751.2	754.8	758.5	764.0	771.4	778.9	786.3	793.8	797.6
125°	811.5	814.5	817.3	820.2	823.1	827.9	834.8	841.6	848.5	855.3	859.1
127.5°	873.2	876.3	879.4	882.6	885.7	889.8	895.1	900.3	905.6	910.9	915.2
130°	912.3	915.7	919.2	922.7	926.2	929.9	934.2	938.3	942.5	946.6	951.0
132.5°	952.2	955.1	958.1	961.0	963.9	967.3	971.0	974.8	978.6	982.4	986.3
135°	1003.7	1007.2	1010.8	1014.3	1017.9	1021.1	1023.9	1026.7	1029.5	1032.3	1036.2
137.5°	1056.1	1058.6	1061.0	1063.6	1066.0	1068.5	1071.1	1073.7	1076.4	1079.0	1082.7
140°	1090.5	1092.2	1093.8	1095.5	1097.2	1099.3	1102.0	1104.6	1107.2	1109.8	1113.0
142.5°	1119.2	1120.7	1122.2	1123.7	1125.2	1127.4	1130.2	1133.0	1135.9	1138.7	1141.6
145°	1163.8	1163.7	1163.4	1163.2	1163.0	1164.7	1168.6	1172.3	1176.1	1179.8	1181.9
147.5°	1203.1	1202.3	1201.5	1200.6	1199.8	1201.3	1204.9	1208.7	1212.4	1216.1	1217.3
150°	1228.7	1227.2	1225.6	1224.0	1222.5	1223.5	1227.0	1230.6	1234.1	1237.7	1239.0
152.5°	1250.3	1248.5	1246.8	1245.0	1243.3	1244.1	1247.5	1250.9	1254.3	1257.6	1259.0
155°	1281.6	1279.5	1277.6	1275.5	1273.6	1273.9	1276.6	1279.2	1281.9	1284.6	1285.9
157.5°	1306.1	1304.4	1302.7	1301.1	1299.3	1299.4	1301.3	1303.2	1305.0	1306.9	1308.4
160°	1320.5	1319.2	1317.8	1316.5	1315.2	1315.2	1316.5	1317.8	1319.2	1320.5	1321.8
162.5°	1333.3	1331.9	1330.6	1329.3	1327.9	1327.8	1328.9	1330.1	1331.3	1332.4	1333.9
165°	1350.4	1349.1	1347.7	1346.4	1345.1	1344.8	1345.4	1346.1	1346.7	1347.4	1348.9
167.5°	1363.2	1361.8	1360.5	1359.2	1357.8	1357.5	1358.1	1358.7	1359.3	1359.9	1361.5
170°	1370.4	1369.0	1367.7	1366.4	1365.0	1364.6	1365.0	1365.5	1365.9	1366.4	1367.9
172.5°	1375.1	1373.8	1372.5	1371.1	1369.8	1369.4	1369.8	1370.2	1370.7	1371.1	1372.6
175°	1381.3	1379.7	1378.2	1376.6	1375.1	1374.5	1375.0	1375.4	1375.9	1376.3	1377.9
177.5°	1382.3	1381.0	1379.8	1378.6	1377.3	1376.8	1377.0	1377.1	1377.3	1377.5	1378.8
180°	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	254.7	255.0	255.4	255.5	255.4	255.2	255.1	254.9
5°	254.0	254.5	254.9	255.1	255.0	254.9	254.9	254.8
7.5°	252.7	253.3	254.0	254.2	254.1	254.0	254.0	253.9
10°	251.7	252.3	253.0	253.3	253.2	253.2	253.1	253.0
12.5°	249.9	250.5	251.2	251.5	251.4	251.4	251.3	251.2
15°	246.6	247.4	248.2	248.5	248.4	248.3	248.3	248.2
17.5°	242.6	243.3	244.0	244.4	244.4	244.4	244.4	244.4
20°	239.2	240.1	241.0	241.5	241.5	241.5	241.5	241.5
22.5°	235.7	236.6	237.5	238.0	238.1	238.2	238.4	238.6
25°	230.2	231.1	232.1	232.7	232.9	233.2	233.4	233.7
27.5°	224.0	225.3	226.5	227.2	227.4	227.6	227.7	228.0
30°	219.6	221.0	222.3	223.1	223.3	223.6	223.8	224.0
32.5°	215.0	216.5	218.1	219.1	219.5	220.0	220.4	220.8
35°	208.5	210.3	212.1	213.3	213.9	214.4	215.0	215.6
37.5°	201.6	203.7	205.7	207.0	207.6	208.2	208.8	209.4
40°	196.9	199.0	201.1	202.6	203.3	204.1	204.8	205.5
42.5°	192.2	194.5	196.9	198.4	199.2	199.9	200.6	201.4
45°	185.1	187.7	190.2	191.9	192.7	193.6	194.4	195.2
47.5°	177.7	180.3	183.0	184.8	185.7	186.6	187.5	188.4
50°	172.6	175.5	178.2	180.1	181.0	181.9	182.8	183.7
52.5°	167.1	170.0	172.8	174.8	175.8	176.8	177.7	178.6
55°	158.9	161.8	164.9	166.8	167.9	169.0	170.1	171.1
57.5°	150.2	153.4	156.5	158.7	159.8	160.9	161.9	163.1
60°	144.4	147.6	150.7	152.8	153.9	155.1	156.3	157.4
62.5°	138.3	141.6	145.0	147.2	148.2	149.3	150.4	151.5
65°	129.0	132.3	135.7	137.9	139.0	140.1	141.1	142.2
67.5°	119.5	122.9	126.4	128.7	129.7	130.9	132.0	133.1
70°	113.0	116.5	120.1	122.4	123.4	124.3	125.3	126.3
72.5°	106.6	110.1	113.6	115.9	117.1	118.3	119.5	120.7
75°	97.1	100.6	104.2	106.5	107.5	108.6	109.7	110.7
77.5°	87.7	91.2	94.7	97.1	98.2	99.4	100.5	101.7
80°	81.4	84.8	88.3	90.6	91.7	92.9	94.0	95.1
82.5°	75.4	78.9	82.3	84.6	85.7	86.8	87.9	88.9
85°	66.9	70.4	73.9	76.1	77.3	78.4	79.6	80.7
87.5°	64.2	67.8	71.3	73.7	74.8	76.0	77.1	78.3
90°	77.6	82.0	86.4	89.4	90.7	92.2	93.7	95.1
92.5°	77.0	80.8	84.5	87.1	88.4	89.6	90.8	92.1
95°	89.9	94.2	98.4	100.9	101.7	102.5	103.2	104.0
97.5°	99.3	103.3	107.2	109.7	111.0	112.3	113.5	114.7
100°	103.5	108.4	113.2	116.3	117.6	119.0	120.3	121.6
102.5°	104.0	109.3	114.5	118.0	119.4	121.0	122.5	124.1
105°	103.3	108.7	114.0	117.5	119.3	121.1	122.9	124.7
107.5°	114.5	114.9	115.1	116.2	118.0	119.8	121.6	123.4
110°	162.5	143.0	123.4	114.5	116.3	118.1	119.9	121.7



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CATALOG NUMBER: S122DIW-S290D1240U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	308.8	230.6	152.3	114.0	115.6	117.2	118.9	120.5
115°	437.2	337.1	237.0	179.4	164.4	149.3	134.3	119.2
117.5°	656.0	633.6	611.2	574.2	522.6	471.0	419.4	367.9
120°	758.4	763.4	768.3	756.3	727.2	698.2	669.2	640.3
122.5°	801.4	805.3	809.1	808.5	803.5	798.4	793.4	788.3
125°	862.9	866.7	870.4	873.0	874.4	875.8	877.3	878.6
127.5°	919.5	923.8	928.1	930.7	931.6	932.4	933.3	934.1
130°	955.4	959.9	964.3	966.7	967.1	967.6	968.0	968.5
132.5°	990.3	994.3	998.3	1000.5	1000.9	1001.4	1001.8	1002.2
135°	1040.2	1044.2	1048.1	1050.2	1050.4	1050.6	1050.8	1051.0
137.5°	1086.4	1090.1	1093.8	1095.5	1095.4	1095.1	1094.9	1094.8
140°	1116.4	1119.7	1123.0	1124.4	1123.7	1123.2	1122.5	1121.9
142.5°	1144.4	1147.3	1150.1	1151.3	1150.6	1149.9	1149.2	1148.5
145°	1183.9	1185.9	1188.1	1188.7	1188.0	1187.3	1186.6	1185.9
147.5°	1218.5	1219.8	1221.0	1221.2	1220.5	1219.8	1219.0	1218.3
150°	1240.3	1241.7	1243.0	1243.1	1242.0	1240.9	1239.7	1238.7
152.5°	1260.3	1261.6	1263.0	1262.9	1261.4	1260.0	1258.5	1257.0
155°	1287.2	1288.6	1289.9	1289.6	1287.8	1286.1	1284.3	1282.5
157.5°	1309.9	1311.4	1313.0	1312.8	1311.1	1309.4	1307.7	1305.9
160°	1323.1	1324.5	1325.8	1325.7	1324.1	1322.6	1321.0	1319.5
162.5°	1335.5	1336.9	1338.5	1338.2	1336.4	1334.4	1332.5	1330.6
165°	1350.5	1352.0	1353.6	1353.6	1352.0	1350.5	1348.9	1347.4
167.5°	1363.0	1364.6	1366.1	1366.0	1363.9	1362.0	1359.9	1358.0
170°	1369.5	1371.0	1372.6	1372.3	1370.4	1368.3	1366.4	1364.3
172.5°	1374.2	1375.7	1377.3	1377.1	1375.1	1373.1	1371.1	1369.1
175°	1379.4	1381.0	1382.5	1382.2	1380.0	1377.8	1375.5	1373.3
177.5°	1380.0	1381.2	1382.5	1382.3	1380.7	1379.1	1377.5	1375.9
180°	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3	1378.3

(END OF REPORT)