

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: P331282-830

Luminaire Tested: **S122DIP-S290D1080U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331282-830
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: S122DIP-S290D1080U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5194.3 lumens
Efficiency: N/A
Efficacy: 123.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

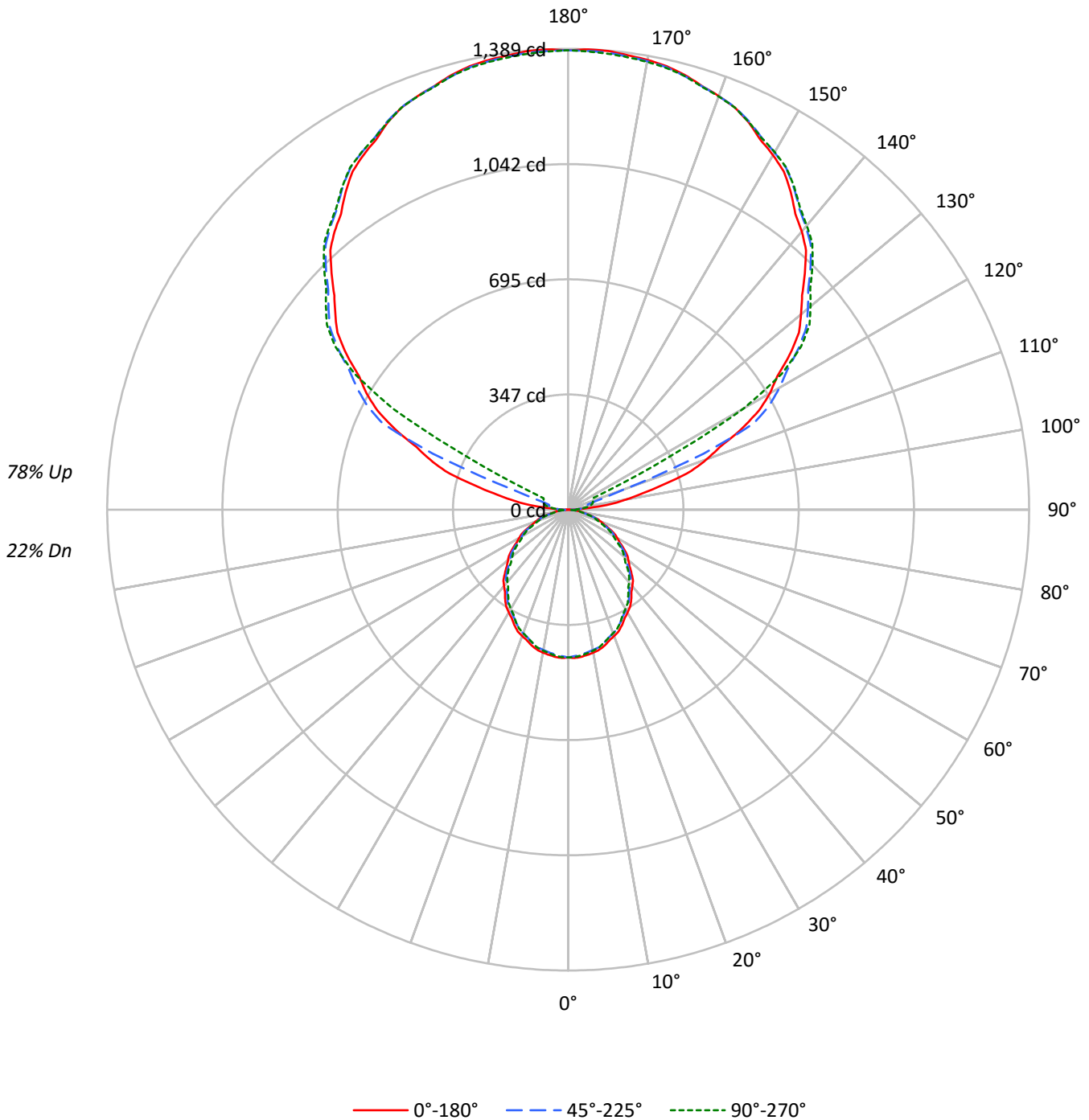
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30	22
1	91	87	84	80	81	78	74	72	59	57	55	42	41	40	27	26	25	18
2	83	76	70	65	74	68	63	59	52	49	46	37	35	33	23	22	21	15
3	76	67	60	54	67	59	54	49	46	42	38	33	30	28	21	19	18	13
4	69	59	52	46	61	53	46	41	40	36	33	29	26	24	19	17	16	11
5	63	52	45	39	56	47	40	35	36	31	28	26	23	21	17	15	14	10
6	58	47	39	34	51	42	35	30	32	28	24	23	20	18	15	13	12	9
7	54	42	35	29	47	38	31	26	29	24	21	21	18	16	14	12	11	8
8	50	38	31	26	44	34	28	23	26	22	19	19	16	14	13	11	9	7
9	46	35	27	23	41	31	25	21	24	20	16	18	15	12	12	10	8	6
10	43	32	25	20	38	28	22	18	22	18	15	16	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7190	7190	7190
5°	7217	7112	7156
10°	7174	7040	7076
15°	7086	6950	6944
20°	6959	6813	6806
25°	6834	6645	6645
30°	6674	6490	6434
35°	6524	6303	6211
40°	6336	6119	6001
45°	6149	5934	5786
50°	5948	5745	5541
55°	5737	5520	5315
60°	5503	5254	5060
65°	5249	4989	4760
70°	4928	4669	4447
75°	4485	4298	4192
80°	3980	3868	3663
85°	3242	3094	2779



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	0.8
10°-20°	117.8	2.3
20°-30°	173.2	3.3
30°-40°	201.2	3.9
40°-50°	200.9	3.9
50°-60°	175.2	3.4
60°-70°	129.6	2.5
70°-80°	73.4	1.4
80°-90°	23.2	0.4
90°-100°	46.2	0.9
100°-110°	169.4	3.3
110°-120°	452.8	8.7
120°-130°	747.4	14.4
130°-140°	794.9	15.3
140°-150°	738.8	14.2
150°-160°	594.0	11.4
160°-170°	382.8	7.4
170°-180°	131.8	2.5
0°-30°	332.9	6.4
0°-40°	534.0	10.3
0°-60°	910.2	17.5
0°-90°	1136.3	21.9
90°-120°	668.4	12.9
90°-150°	2949.4	56.8
90°-180°	4058.0	78.1
0°-180°	5194.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	445	445	445	445	445	
5°	445	443	439	442	442	42
15°	424	421	416	417	415	119
25°	384	380	373	374	373	176
35°	331	327	320	317	315	207
45°	269	266	260	255	253	208
55°	204	201	196	191	189	182
65°	137	135	131	127	125	136
75°	72	71	69	66	67	77
85°	18	17	17	16	15	20
90°	1	12	20	25	27	4
95°	65	34	39	44	43	80
105°	305	318	61	72	76	325
115°	576	594	618	176	82	567
125°	815	828	847	853	857	726
135°	1008	1024	1033	1042	1041	778
145°	1169	1169	1185	1192	1187	731
155°	1288	1280	1290	1296	1288	593
165°	1357	1351	1354	1360	1354	383
175°	1388	1381	1383	1389	1380	132
180°	1385	1385	1385	1385	1385	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	447.3	447.0	446.6	446.2	445.8	445.3	444.4	443.6	442.7	441.9	442.6
5°	445.3	444.9	444.5	444.1	443.7	443.1	442.1	441.0	439.9	438.8	439.6
7.5°	441.4	440.7	440.2	439.6	439.0	438.2	437.2	436.0	435.0	433.9	434.7
10°	437.6	437.0	436.3	435.6	434.9	434.0	432.9	431.8	430.6	429.4	430.2
12.5°	432.4	431.9	431.3	430.6	430.1	429.2	428.1	427.0	425.8	424.7	425.2
15°	423.9	423.3	422.7	422.2	421.6	420.8	419.4	418.2	417.0	415.8	416.1
17.5°	412.9	412.4	411.8	411.2	410.7	409.7	408.5	407.2	406.0	404.7	405.1
20°	405.0	404.4	403.9	403.3	402.7	401.8	400.5	399.2	397.8	396.5	396.8
22.5°	397.2	396.3	395.6	394.7	394.0	392.9	391.7	390.4	389.2	388.0	388.0
25°	383.6	382.9	382.1	381.4	380.6	379.4	377.8	376.2	374.6	373.0	373.2
27.5°	368.3	367.6	366.8	366.2	365.5	364.5	363.3	361.9	360.7	359.4	359.1
30°	358.0	357.2	356.5	355.7	354.9	353.8	352.4	351.0	349.5	348.1	347.8
32.5°	346.9	346.4	345.8	345.2	344.6	343.5	342.0	340.5	339.0	337.5	337.0
35°	331.0	330.0	329.0	328.1	327.2	325.9	324.4	322.9	321.4	319.8	319.2
37.5°	312.9	312.1	311.2	310.4	309.5	308.4	306.9	305.4	303.8	302.3	301.6
40°	300.6	299.8	299.1	298.3	297.6	296.4	294.8	293.3	291.8	290.3	289.5
42.5°	288.6	287.9	287.1	286.3	285.6	284.4	282.9	281.3	279.8	278.3	277.4
45°	269.3	268.6	268.0	267.3	266.6	265.6	264.2	262.8	261.4	259.9	258.8
47.5°	250.2	249.5	248.9	248.3	247.6	246.6	245.1	243.6	242.1	240.6	239.5
50°	236.8	236.3	235.8	235.4	234.9	233.9	232.6	231.3	230.0	228.7	227.3
52.5°	223.8	223.1	222.5	221.9	221.2	220.3	219.0	217.8	216.5	215.3	214.1
55°	203.8	203.2	202.6	202.1	201.5	200.7	199.5	198.4	197.3	196.1	194.9
57.5°	183.8	183.3	182.9	182.4	181.9	181.1	179.8	178.6	177.3	176.1	174.9
60°	170.4	170.0	169.7	169.3	168.9	168.1	166.7	165.4	164.0	162.7	161.6
62.5°	157.4	156.7	156.2	155.6	155.0	154.1	153.1	152.1	151.1	150.1	149.0
65°	137.4	136.9	136.3	135.7	135.2	134.4	133.5	132.5	131.6	130.6	129.7
67.5°	117.2	116.7	116.2	115.7	115.4	114.7	113.8	112.9	112.1	111.2	110.6
70°	104.4	104.1	103.7	103.3	102.9	102.4	101.5	100.7	99.7	98.9	98.2
72.5°	91.4	91.0	90.7	90.3	89.9	89.4	88.9	88.4	87.8	87.3	86.6
75°	71.9	71.7	71.5	71.4	71.2	70.9	70.4	69.8	69.4	68.9	68.3
77.5°	54.5	54.1	53.8	53.5	53.2	52.9	52.7	52.5	52.3	52.1	51.8
80°	42.8	42.7	42.6	42.5	42.4	42.3	42.1	41.9	41.8	41.6	41.3
82.5°	31.9	31.9	31.9	31.8	31.8	31.7	31.6	31.5	31.4	31.3	30.9
85°	17.5	17.4	17.3	17.2	17.2	17.1	17.0	16.9	16.8	16.7	16.4
87.5°	6.4	6.7	7.1	7.4	7.7	8.0	8.2	8.4	8.6	8.8	8.8
90°	1.0	3.5	5.9	8.4	10.8	12.9	14.7	16.5	18.3	20.1	21.1
92.5°	20.3	20.0	19.8	19.6	19.3	19.7	20.5	21.5	22.3	23.3	23.8
95°	65.1	57.8	50.4	43.1	35.7	32.8	34.4	36.0	37.5	39.1	40.2
97.5°	129.2	108.6	87.8	67.1	46.5	37.9	41.5	45.1	48.7	52.3	53.2
100°	177.4	146.8	116.3	85.9	55.3	41.9	45.7	49.6	53.3	57.1	58.9
102.5°	230.3	223.8	217.4	210.8	204.4	185.4	153.7	122.1	90.4	58.7	61.1
105°	304.6	311.3	317.9	324.6	331.3	304.3	243.5	182.7	121.9	61.1	63.5
107.5°	389.4	394.7	400.1	405.5	410.9	377.2	304.3	231.4	158.4	85.6	83.0
110°	443.8	448.6	453.3	457.9	462.6	432.7	368.3	304.1	239.7	175.3	153.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	495.2	499.4	503.4	507.6	511.7	505.9	489.9	474.1	458.2	442.2	361.1
115°	576.2	579.9	583.7	587.5	591.3	596.0	601.5	607.1	612.7	618.2	515.1
117.5°	648.5	652.7	657.0	661.2	665.4	669.4	673.3	677.1	680.9	684.8	659.8
120°	701.3	704.7	708.0	711.4	714.7	718.4	722.5	726.4	730.5	734.4	737.1
122.5°	746.3	749.8	753.3	756.9	760.3	764.3	768.6	773.0	777.4	781.7	783.3
125°	814.6	817.5	820.4	823.3	826.1	829.7	834.0	838.2	842.4	846.7	848.2
127.5°	876.6	879.8	883.0	886.2	889.4	892.5	895.7	898.8	902.0	905.2	907.5
130°	915.8	919.4	922.9	926.5	930.0	933.0	935.5	937.9	940.4	942.8	945.3
132.5°	955.8	958.9	962.0	965.0	968.0	970.7	973.2	975.6	978.1	980.5	982.6
135°	1008.0	1011.5	1015.1	1018.7	1022.2	1025.0	1027.0	1029.0	1031.0	1033.0	1035.3
137.5°	1060.6	1063.2	1065.6	1068.2	1070.6	1073.0	1075.3	1077.6	1079.9	1082.1	1084.3
140°	1095.1	1096.9	1098.7	1100.5	1102.3	1104.4	1106.8	1109.3	1111.7	1114.2	1116.2
142.5°	1124.0	1125.6	1127.2	1128.8	1130.4	1132.7	1135.4	1138.2	1141.0	1143.9	1145.7
145°	1169.3	1169.0	1168.8	1168.7	1168.4	1170.2	1173.9	1177.7	1181.6	1185.3	1186.8
147.5°	1208.8	1208.0	1207.1	1206.3	1205.4	1206.8	1210.6	1214.3	1218.0	1221.8	1222.9
150°	1234.4	1232.8	1231.3	1229.7	1228.2	1229.2	1232.8	1236.3	1239.9	1243.4	1244.8
152.5°	1256.0	1254.3	1252.5	1250.8	1249.2	1249.9	1253.3	1256.7	1260.1	1263.5	1264.8
155°	1287.5	1285.5	1283.6	1281.5	1279.5	1279.9	1282.5	1285.2	1287.9	1290.5	1291.8
157.5°	1312.2	1310.5	1308.8	1307.1	1305.4	1305.5	1307.4	1309.2	1311.1	1313.0	1314.5
160°	1326.6	1325.3	1323.9	1322.6	1321.3	1321.3	1322.6	1323.9	1325.3	1326.6	1327.9
162.5°	1339.4	1338.1	1336.7	1335.4	1334.1	1334.0	1335.1	1336.3	1337.5	1338.6	1340.1
165°	1356.7	1355.3	1354.0	1352.6	1351.3	1350.9	1351.6	1352.4	1353.0	1353.7	1355.2
167.5°	1369.5	1368.2	1366.8	1365.5	1364.1	1363.8	1364.4	1365.0	1365.6	1366.3	1367.8
170°	1376.7	1375.4	1374.0	1372.7	1371.4	1370.9	1371.4	1371.8	1372.2	1372.7	1374.2
172.5°	1381.5	1380.2	1378.8	1377.5	1376.2	1375.7	1376.2	1376.6	1377.1	1377.5	1379.0
175°	1387.7	1386.2	1384.6	1383.1	1381.5	1380.9	1381.4	1381.9	1382.2	1382.7	1384.3
177.5°	1388.7	1387.5	1386.2	1385.0	1383.7	1383.2	1383.4	1383.6	1383.7	1383.9	1385.2
180°	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	443.4	444.1	444.9	445.3	445.1	444.9	444.8	444.6
5°	440.5	441.2	442.0	442.2	442.1	441.9	441.7	441.5
7.5°	435.5	436.2	437.0	437.2	437.1	436.8	436.6	436.4
10°	431.0	431.8	432.5	432.7	432.4	432.2	431.9	431.6
12.5°	425.7	426.2	426.8	427.0	426.8	426.5	426.3	426.1
15°	416.5	416.9	417.3	417.3	416.8	416.3	415.8	415.4
17.5°	405.6	406.0	406.4	406.4	406.0	405.6	405.1	404.6
20°	397.1	397.4	397.7	397.6	397.2	396.8	396.4	396.1
22.5°	388.0	388.1	388.1	388.0	387.9	387.6	387.4	387.2
25°	373.3	373.5	373.7	373.7	373.5	373.3	373.2	373.0
27.5°	358.8	358.5	358.3	357.9	357.4	356.9	356.6	356.1
30°	347.5	347.2	346.9	346.7	346.3	345.9	345.5	345.1
32.5°	336.5	335.9	335.5	335.0	334.6	334.2	333.8	333.5
35°	318.7	318.1	317.5	317.1	316.6	316.1	315.7	315.1
37.5°	300.9	300.2	299.4	298.9	298.4	297.9	297.6	297.1
40°	288.6	287.8	286.9	286.3	285.9	285.5	285.1	284.7
42.5°	276.4	275.5	274.6	273.8	273.3	272.8	272.3	271.7
45°	257.8	256.7	255.7	255.0	254.6	254.2	253.8	253.4
47.5°	238.5	237.3	236.2	235.4	234.9	234.3	233.8	233.2
50°	226.0	224.6	223.3	222.4	222.0	221.5	221.0	220.6
52.5°	213.1	212.0	210.8	210.0	209.3	208.8	208.1	207.5
55°	193.8	192.7	191.5	190.8	190.3	189.7	189.3	188.8
57.5°	173.8	172.7	171.5	170.8	170.5	170.1	169.8	169.4
60°	160.6	159.6	158.5	157.9	157.6	157.3	157.0	156.7
62.5°	148.1	147.1	146.2	145.5	145.2	144.8	144.4	144.0
65°	128.8	128.0	127.1	126.5	126.0	125.5	125.1	124.6
67.5°	109.9	109.2	108.6	108.0	107.6	107.3	106.9	106.5
70°	97.6	96.9	96.2	95.8	95.4	94.9	94.5	94.2
72.5°	86.0	85.3	84.6	84.1	83.8	83.5	83.2	82.8
75°	67.8	67.2	66.6	66.4	66.6	66.8	67.0	67.2
77.5°	51.6	51.3	51.0	50.7	50.4	50.2	50.0	49.7
80°	41.0	40.7	40.4	40.2	40.0	39.8	39.6	39.4
82.5°	30.5	30.2	29.8	29.6	29.6	29.5	29.5	29.5
85°	16.1	15.8	15.6	15.4	15.3	15.2	15.1	15.0
87.5°	8.8	8.8	8.8	8.8	8.8	8.8	8.9	8.9
90°	22.2	23.4	24.5	25.3	25.7	26.2	26.6	27.1
92.5°	24.4	25.0	25.5	26.0	26.3	26.5	26.8	27.1
95°	41.3	42.4	43.5	44.0	43.7	43.5	43.3	43.1
97.5°	54.1	55.0	55.9	56.5	56.7	57.0	57.2	57.5
100°	60.7	62.5	64.3	65.3	65.8	66.3	66.7	67.1
102.5°	63.3	65.7	68.0	69.5	70.0	70.7	71.4	71.9
105°	66.0	68.4	70.9	72.6	73.5	74.4	75.2	76.2
107.5°	80.6	78.0	75.6	74.8	75.7	76.5	77.5	78.3
110°	130.8	108.6	86.2	75.6	76.4	77.4	78.2	79.2



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CATALOG NUMBER: S122DIP-S290D1080U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	279.8	198.6	117.3	77.1	77.9	78.5	79.3	79.9
115°	412.0	309.0	205.9	146.3	130.3	114.2	98.2	82.2
117.5°	634.9	609.9	585.0	546.2	493.5	440.8	388.1	335.5
120°	739.8	742.4	745.2	731.4	701.3	671.3	641.2	611.2
122.5°	784.9	786.6	788.2	786.0	780.2	774.4	768.5	762.7
125°	849.8	851.3	852.9	854.0	854.7	855.4	856.0	856.7
127.5°	909.7	912.0	914.3	915.5	915.6	915.8	915.9	916.0
130°	947.7	950.2	952.6	953.8	953.6	953.3	953.1	952.9
132.5°	984.7	986.8	988.9	989.9	989.6	989.4	989.2	988.9
135°	1037.5	1039.7	1041.9	1042.8	1042.4	1041.9	1041.5	1041.0
137.5°	1086.5	1088.6	1090.8	1091.6	1090.8	1090.1	1089.3	1088.5
140°	1118.2	1120.2	1122.2	1122.7	1121.5	1120.4	1119.3	1118.2
142.5°	1147.5	1149.3	1151.1	1151.5	1150.4	1149.2	1148.2	1147.1
145°	1188.5	1190.0	1191.6	1191.8	1190.7	1189.6	1188.5	1187.3
147.5°	1224.1	1225.3	1226.4	1226.5	1225.6	1224.6	1223.7	1222.8
150°	1246.1	1247.5	1248.8	1248.9	1247.7	1246.7	1245.6	1244.4
152.5°	1266.1	1267.5	1268.9	1268.8	1267.2	1265.8	1264.3	1262.9
155°	1293.2	1294.6	1295.9	1295.6	1293.8	1292.1	1290.3	1288.5
157.5°	1316.0	1317.5	1319.0	1318.9	1317.2	1315.4	1313.7	1311.9
160°	1329.3	1330.6	1331.9	1331.8	1330.3	1328.7	1327.2	1325.6
162.5°	1341.6	1343.1	1344.7	1344.4	1342.6	1340.7	1338.7	1336.8
165°	1356.8	1358.3	1359.9	1359.9	1358.3	1356.8	1355.2	1353.7
167.5°	1369.4	1370.9	1372.5	1372.2	1370.3	1368.3	1366.3	1364.2
170°	1375.8	1377.3	1378.9	1378.7	1376.7	1374.7	1372.7	1370.6
172.5°	1380.6	1382.1	1383.7	1383.6	1381.5	1379.5	1377.5	1375.5
175°	1385.8	1387.4	1388.9	1388.6	1386.4	1384.1	1382.0	1379.7
177.5°	1386.4	1387.6	1388.9	1388.7	1387.1	1385.5	1383.9	1382.3
180°	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7

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