

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: P331780-940

Luminaire Tested: **S122RDIW-S290D1240U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331780-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIW-S290D1240U940-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4757.2 lumens  
Efficiency: N/A  
Efficacy: 102.1 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

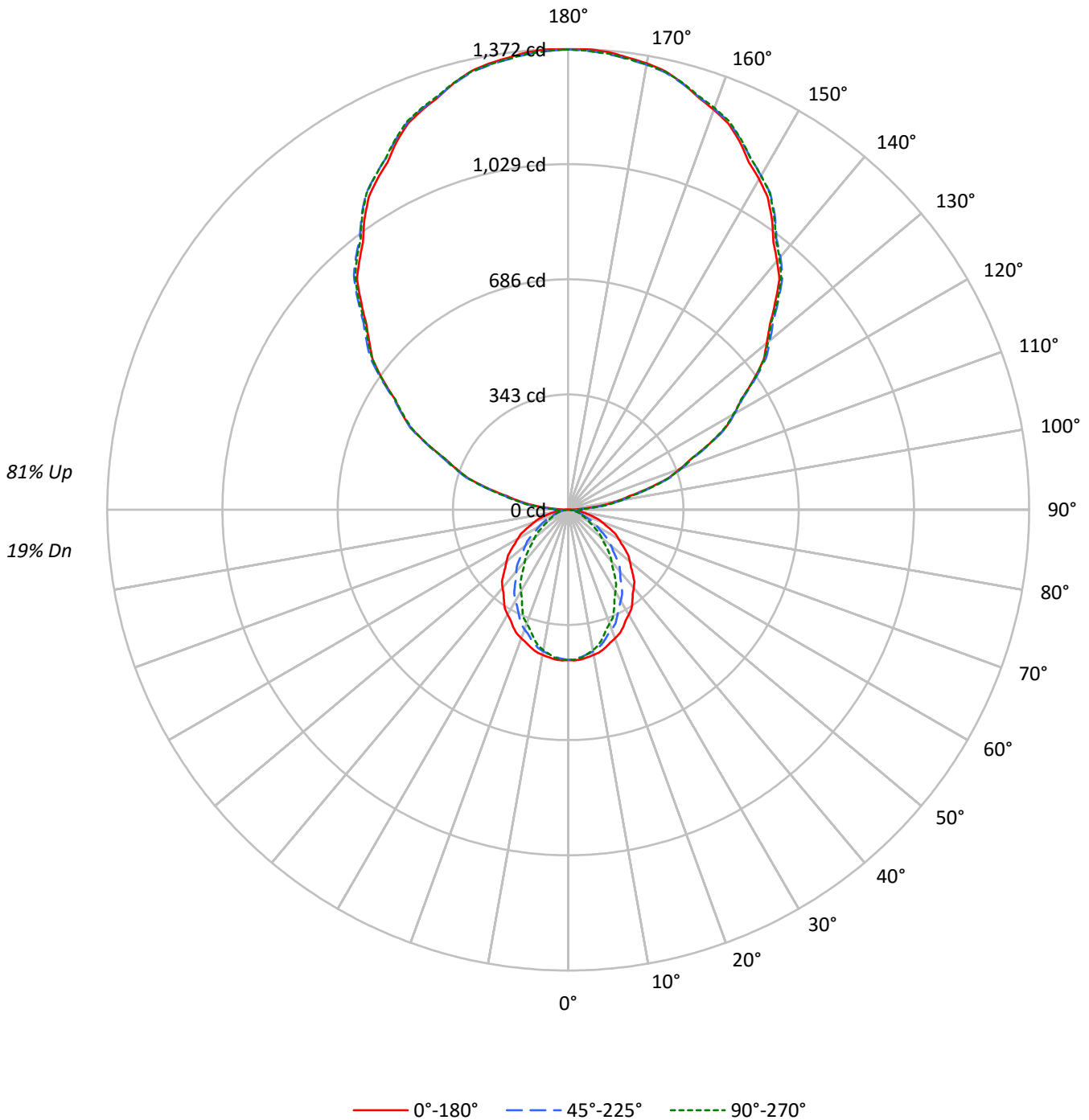
Input Watts (W): 46.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19
1	91	87	83	80	80	77	74	71	58	56	54	41	40	39	25	24	24	17
2	83	76	70	66	73	67	63	59	51	48	45	36	34	33	22	21	20	14
3	76	67	60	55	67	59	54	49	45	41	38	32	30	28	20	19	18	12
4	69	59	52	46	61	53	46	42	40	36	33	29	26	24	18	16	15	11
5	64	53	45	39	56	47	40	36	36	31	28	26	23	21	16	15	13	9
6	58	47	40	34	51	42	36	31	32	28	24	23	20	18	15	13	12	8
7	54	42	35	30	48	38	31	27	29	25	21	21	18	16	13	12	11	8
8	50	38	31	26	44	34	28	24	26	22	19	19	16	14	12	11	9	7
9	46	35	28	23	41	31	25	21	24	20	17	18	15	13	11	10	9	6
10	43	32	25	21	38	29	23	19	22	18	15	16	13	11	10	9	8	6

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7227	7227	7227
5°	7254	7136	7175
10°	7199	7020	6960
15°	7116	6812	6614
20°	7002	6515	6189
25°	6885	6178	5772
30°	6721	5830	5243
35°	6564	5454	4776
40°	6403	5063	4234
45°	6215	4624	3747
50°	6023	4182	3265
55°	5827	3704	2806
60°	5596	3203	2328
65°	5337	2690	2120
70°	5032	2219	1950
75°	4648	2021	1822
80°	4100	1804	1655
85°	3223	1426	1426



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.9	0.9
10°-20°	115.0	2.4
20°-30°	161.6	3.4
30°-40°	176.2	3.7
40°-50°	162.0	3.4
50°-60°	127.2	2.7
60°-70°	82.9	1.7
70°-80°	42.8	0.9
80°-90°	16.6	0.3
90°-100°	86.8	1.8
100°-110°	269.6	5.7
110°-120°	460.9	9.7
120°-130°	606.1	12.7
130°-140°	680.3	14.3
140°-150°	667.1	14.0
150°-160°	559.5	11.8
160°-170°	371.1	7.8
170°-180°	129.7	2.7
0°-30°	318.5	6.7
0°-40°	494.7	10.4
0°-60°	783.8	16.5
0°-90°	926.1	19.5
90°-120°	817.4	17.2
90°-150°	2770.9	58.2
90°-180°	3831.0	80.5
0°-180°	4757.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	448	448	448	448	448	
5°	448	445	440	444	443	42
15°	426	421	408	400	396	120
25°	386	373	347	331	324	178
35°	333	312	277	252	242	208
45°	272	244	202	175	164	210
55°	207	175	132	108	100	185
65°	140	107	70	57	56	138
75°	74	47	32	30	29	79
85°	17	9	8	8	8	21
90°	1	16	40	38	39	4
95°	60	71	74	74	72	69
105°	249	252	254	257	257	263
115°	462	469	467	466	462	457
125°	673	683	680	677	675	601
135°	871	883	886	884	881	672
145°	1057	1065	1072	1073	1068	660
155°	1208	1212	1215	1220	1218	556
165°	1315	1314	1314	1321	1316	371
175°	1368	1364	1362	1369	1363	130
180°	1370	1370	1370	1370	1370	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	449.2	448.9	448.5	448.2	447.8	447.2	446.4	445.7	444.9	444.1	444.8
5°	447.6	447.2	446.7	446.3	445.9	445.0	443.8	442.6	441.5	440.3	441.1
7.5°	443.0	442.5	441.8	441.3	440.8	439.8	438.5	437.0	435.7	434.4	434.5
10°	439.1	438.5	437.8	437.2	436.6	435.3	433.5	431.8	430.0	428.2	427.9
12.5°	434.3	433.5	432.7	431.9	431.1	429.6	427.3	425.0	422.7	420.4	419.9
15°	425.7	424.7	423.7	422.8	421.8	419.7	416.7	413.7	410.5	407.5	405.8
17.5°	415.3	413.8	412.2	410.7	409.2	406.5	402.6	398.7	394.8	390.8	388.8
20°	407.5	405.7	403.9	402.1	400.3	397.2	392.6	388.2	383.7	379.2	376.9
22.5°	399.1	397.1	395.0	393.1	391.0	387.4	382.4	377.3	372.3	367.2	364.3
25°	386.5	383.5	380.7	377.8	375.0	370.5	364.5	358.6	352.7	346.8	343.0
27.5°	371.2	368.1	365.0	361.9	358.6	353.7	347.1	340.4	333.7	327.0	322.7
30°	360.5	357.1	353.7	350.3	346.9	341.5	334.3	327.2	319.9	312.7	308.2
32.5°	350.2	346.2	342.1	338.1	334.1	328.5	321.2	313.8	306.5	299.1	293.9
35°	333.0	328.4	323.8	319.2	314.6	308.4	300.4	292.5	284.6	276.7	271.0
37.5°	315.8	310.8	305.7	300.7	295.6	288.9	280.4	272.0	263.6	255.1	248.9
40°	303.8	298.5	293.0	287.6	282.2	275.2	266.4	257.7	249.0	240.2	233.8
42.5°	291.5	285.8	280.1	274.5	268.8	261.4	252.4	243.3	234.3	225.3	218.7
45°	272.2	266.2	260.1	254.1	248.1	240.3	230.9	221.4	212.0	202.5	196.2
47.5°	253.4	247.0	240.7	234.3	227.8	219.8	210.0	200.3	190.5	180.7	174.4
50°	239.8	233.4	227.0	220.6	214.3	206.1	196.2	186.3	176.4	166.5	160.2
52.5°	226.5	219.8	213.2	206.5	199.8	191.6	181.9	172.3	162.6	152.8	146.9
55°	207.0	200.0	193.0	185.9	178.9	170.6	160.8	151.1	141.3	131.6	126.3
57.5°	187.0	179.8	172.5	165.4	158.2	149.9	140.5	131.3	121.9	112.5	107.5
60°	173.3	166.2	159.0	151.8	144.5	136.3	127.1	117.8	108.5	99.2	94.6
62.5°	160.1	152.9	145.7	138.5	131.3	123.2	114.4	105.6	96.8	87.9	83.6
65°	139.7	132.4	125.2	117.9	110.6	102.9	94.8	86.7	78.6	70.4	67.4
67.5°	120.1	112.9	105.7	98.4	91.2	83.9	76.6	69.4	62.1	54.8	53.3
70°	106.6	99.5	92.5	85.5	78.5	71.9	65.6	59.4	53.2	47.0	46.1
72.5°	93.5	86.9	80.1	73.4	66.6	60.8	55.8	50.8	45.8	40.8	40.0
75°	74.5	68.2	62.0	55.6	49.3	44.7	41.6	38.5	35.5	32.4	31.7
77.5°	55.8	50.3	44.8	39.2	33.7	30.2	28.7	27.3	25.8	24.3	24.0
80°	44.1	39.6	35.0	30.4	25.8	23.0	22.1	21.2	20.3	19.4	19.1
82.5°	33.4	29.9	26.3	22.7	19.2	17.0	16.4	15.8	15.2	14.6	14.4
85°	17.4	15.5	13.6	11.8	9.9	8.7	8.5	8.2	7.9	7.7	7.7
87.5°	5.4	5.4	5.5	5.5	5.6	6.2	7.3	8.4	9.5	10.7	10.5
90°	1.2	4.3	7.3	10.4	13.5	17.8	23.5	29.2	34.8	40.5	39.9
92.5°	20.6	22.8	25.1	27.4	29.6	31.4	32.7	34.1	35.4	36.7	36.8
95°	60.1	62.7	65.3	67.9	70.4	72.0	72.5	72.9	73.5	74.0	74.0
97.5°	109.9	112.1	114.4	116.6	118.9	120.5	121.5	122.4	123.4	124.4	124.4
100°	146.9	148.9	151.0	153.0	155.1	156.5	157.2	158.0	158.8	159.5	159.5
102.5°	185.7	187.3	189.0	190.6	192.3	193.6	194.6	195.6	196.5	197.5	197.7
105°	248.6	249.3	250.1	250.9	251.6	252.4	252.8	253.3	253.9	254.4	254.9
107.5°	311.9	313.1	314.2	315.3	316.5	317.0	317.0	317.0	317.0	317.0	317.3
110°	352.7	354.2	355.7	357.3	358.8	359.6	359.6	359.6	359.6	359.6	359.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	397.1	398.6	400.1	401.7	403.2	403.9	403.7	403.5	403.2	403.1	402.4
115°	462.5	464.0	465.6	467.1	468.7	469.1	468.7	468.1	467.6	467.1	466.9
117.5°	527.7	529.8	531.8	533.9	535.9	536.3	534.8	533.3	531.9	530.5	529.9
120°	571.1	573.2	575.3	577.4	579.4	579.4	577.4	575.3	573.2	571.1	571.1
122.5°	610.9	613.4	615.9	618.3	620.8	621.3	619.9	618.5	617.0	615.5	614.9
125°	672.9	675.2	677.5	679.8	682.2	683.0	682.2	681.4	680.6	679.8	679.1
127.5°	733.3	736.2	739.1	742.1	745.0	746.0	745.1	744.1	743.2	742.3	741.4
130°	771.2	774.5	777.9	781.2	784.5	786.0	785.5	785.0	784.4	783.9	783.4
132.5°	813.8	816.5	819.2	821.9	824.7	826.1	826.2	826.3	826.3	826.4	825.4
135°	870.7	873.4	876.3	879.1	882.0	883.6	884.1	884.7	885.2	885.6	885.4
137.5°	930.5	932.8	935.1	937.5	939.8	941.3	941.9	942.6	943.3	944.0	943.8
140°	966.6	968.9	971.3	973.6	975.9	977.7	978.9	980.3	981.5	982.8	982.8
142.5°	1003.6	1005.9	1008.3	1010.6	1012.9	1014.4	1015.3	1016.2	1017.1	1018.0	1018.2
145°	1056.8	1058.6	1060.4	1062.2	1064.0	1065.7	1067.2	1068.7	1070.3	1071.8	1072.1
147.5°	1104.2	1106.3	1108.5	1110.7	1112.9	1114.5	1115.4	1116.5	1117.5	1118.6	1119.1
150°	1136.6	1138.1	1139.7	1141.2	1142.7	1144.1	1145.0	1146.1	1147.1	1148.2	1148.9
152.5°	1165.3	1166.8	1168.3	1169.8	1171.4	1172.8	1174.0	1175.3	1176.5	1177.8	1178.8
155°	1208.3	1209.1	1209.8	1210.6	1211.4	1212.1	1212.9	1213.6	1214.4	1215.2	1216.5
157.5°	1245.0	1245.5	1246.1	1246.6	1247.1	1247.6	1248.0	1248.5	1248.9	1249.5	1251.2
160°	1267.2	1267.7	1268.3	1268.8	1269.3	1269.7	1269.9	1270.2	1270.4	1270.7	1272.2
162.5°	1287.5	1287.7	1287.8	1287.9	1288.0	1288.2	1288.4	1288.7	1289.0	1289.2	1290.9
165°	1314.6	1314.4	1314.1	1313.8	1313.6	1313.5	1313.5	1313.5	1313.5	1313.5	1315.3
167.5°	1337.3	1336.5	1335.8	1335.0	1334.2	1333.8	1333.7	1333.7	1333.6	1333.6	1335.4
170°	1349.3	1348.5	1347.8	1347.0	1346.2	1345.8	1345.5	1345.2	1345.0	1344.7	1346.5
172.5°	1357.6	1356.9	1356.1	1355.3	1354.6	1354.1	1353.8	1353.5	1353.3	1353.0	1354.9
175°	1367.8	1367.1	1366.3	1365.5	1364.8	1364.1	1363.6	1363.1	1362.5	1362.0	1363.9
177.5°	1372.0	1371.4	1370.7	1370.1	1369.5	1369.0	1368.6	1368.2	1367.8	1367.3	1368.6
180°	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	445.5	446.2	446.9	447.2	447.1	446.9	446.7	446.7
5°	441.9	442.7	443.5	443.8	443.5	443.3	443.0	442.7
7.5°	434.8	435.1	435.2	435.2	434.7	434.2	433.7	433.3
10°	427.7	427.4	427.1	426.7	426.1	425.6	425.1	424.5
12.5°	419.5	418.9	418.5	417.8	416.9	416.0	415.1	414.2
15°	404.1	402.3	400.6	399.4	398.5	397.5	396.6	395.7
17.5°	386.7	384.7	382.7	380.9	379.3	377.8	376.2	374.7
20°	374.7	372.4	370.1	368.0	366.0	364.1	362.1	360.2
22.5°	361.4	358.5	355.6	353.4	351.9	350.4	348.9	347.5
25°	339.4	335.6	332.0	329.5	328.1	326.7	325.4	324.0
27.5°	318.3	314.1	309.8	306.6	304.4	302.3	300.1	298.0
30°	303.5	299.0	294.4	290.9	288.4	286.0	283.6	281.2
32.5°	288.6	283.4	278.1	274.4	272.2	269.8	267.5	265.3
35°	265.4	259.7	254.0	250.1	248.2	246.2	244.2	242.3
37.5°	242.6	236.4	230.2	225.9	223.6	221.3	219.1	216.8
40°	227.5	221.1	214.6	210.3	207.9	205.6	203.2	200.9
42.5°	212.0	205.5	198.9	194.5	192.2	189.9	187.6	185.4
45°	189.8	183.3	177.0	172.7	170.6	168.4	166.2	164.1
47.5°	168.0	161.7	155.3	151.1	149.2	147.2	145.3	143.3
50°	154.1	147.8	141.6	137.6	135.7	133.8	131.9	130.0
52.5°	140.9	134.9	128.9	125.0	123.3	121.5	119.8	118.1
55°	120.8	115.5	110.0	106.5	104.8	103.1	101.4	99.7
57.5°	102.6	97.6	92.7	89.5	88.1	86.7	85.2	83.7
60°	90.1	85.5	80.9	77.8	76.4	75.0	73.6	72.1
62.5°	79.2	74.8	70.4	67.8	66.9	66.1	65.2	64.3
65°	64.4	61.3	58.2	56.5	56.3	56.0	55.7	55.5
67.5°	52.0	50.6	49.1	48.3	48.0	47.7	47.4	47.2
70°	45.2	44.3	43.4	42.8	42.4	42.0	41.6	41.3
72.5°	39.3	38.5	37.8	37.4	37.1	36.9	36.6	36.5
75°	31.1	30.5	29.9	29.5	29.4	29.3	29.2	29.2
77.5°	23.5	23.2	22.8	22.6	22.5	22.3	22.2	22.0
80°	18.7	18.4	18.0	17.8	17.8	17.8	17.8	17.8
82.5°	14.2	13.9	13.7	13.6	13.6	13.6	13.6	13.6
85°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
87.5°	10.3	10.2	10.0	9.9	10.0	10.0	10.1	10.2
90°	39.4	39.0	38.4	38.3	38.5	38.8	39.1	39.3
92.5°	37.0	37.1	37.2	37.3	37.3	37.4	37.5	37.5
95°	74.0	74.0	74.0	73.7	73.2	72.7	72.2	71.7
97.5°	124.4	124.4	124.4	124.4	124.3	124.3	124.2	124.2
100°	159.5	159.5	159.5	159.4	159.2	158.9	158.6	158.4
102.5°	197.9	198.1	198.3	198.3	198.0	197.8	197.5	197.2
105°	255.4	255.9	256.5	256.7	256.7	256.7	256.7	256.7
107.5°	317.4	317.6	317.9	317.4	316.2	315.0	313.8	312.6
110°	359.6	359.6	359.6	359.2	358.5	357.7	356.9	356.1





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CATALOG NUMBER: S122RDIW-S290D1240U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	401.8	401.2	400.6	400.0	399.4	398.9	398.3	397.7
115°	466.6	466.4	466.1	465.6	464.8	464.0	463.2	462.5
117.5°	529.2	528.6	528.0	527.4	526.6	525.8	525.0	524.2
120°	571.1	571.1	571.1	570.8	570.0	569.3	568.5	567.8
122.5°	614.4	613.8	613.1	612.5	612.0	611.4	610.8	610.3
125°	678.3	677.5	676.8	676.3	676.0	675.7	675.5	675.2
127.5°	740.5	739.5	738.6	737.7	736.9	736.1	735.3	734.4
130°	782.9	782.4	781.9	781.1	780.1	779.1	778.0	776.9
132.5°	824.2	823.0	822.0	821.0	820.2	819.3	818.5	817.7
135°	885.2	884.9	884.7	884.1	883.3	882.6	881.8	881.0
137.5°	943.5	943.3	943.2	942.5	941.5	940.5	939.4	938.4
140°	982.8	982.8	982.8	982.3	981.2	980.3	979.2	978.2
142.5°	1018.3	1018.6	1018.8	1018.3	1017.4	1016.3	1015.3	1014.2
145°	1072.4	1072.6	1072.8	1072.5	1071.5	1070.4	1069.4	1068.4
147.5°	1119.6	1120.3	1120.8	1120.6	1119.6	1118.7	1117.7	1116.7
150°	1149.7	1150.5	1151.2	1151.2	1150.5	1149.7	1148.9	1148.2
152.5°	1179.7	1180.6	1181.6	1181.6	1180.6	1179.7	1178.8	1177.8
155°	1217.8	1219.1	1220.3	1220.6	1219.9	1219.1	1218.3	1217.5
157.5°	1252.9	1254.6	1256.4	1256.7	1255.4	1254.2	1252.9	1251.7
160°	1273.8	1275.3	1276.8	1277.1	1276.1	1275.1	1274.1	1273.0
162.5°	1292.7	1294.4	1296.2	1296.5	1295.2	1294.0	1292.7	1291.6
165°	1317.1	1318.8	1320.7	1320.9	1319.6	1318.4	1317.1	1315.8
167.5°	1337.2	1339.0	1340.8	1341.0	1339.7	1338.4	1337.0	1335.7
170°	1348.3	1350.1	1351.9	1352.0	1350.5	1349.0	1347.4	1345.9
172.5°	1356.6	1358.4	1360.2	1360.3	1358.8	1357.3	1355.8	1354.2
175°	1365.7	1367.4	1369.2	1369.4	1367.8	1366.3	1364.8	1363.2
177.5°	1369.8	1371.1	1372.3	1372.3	1371.1	1369.8	1368.6	1367.3
180°	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1

(END OF REPORT)