

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: P242757

Luminaire Tested: **S124RDR-S575D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242757
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-S575D935-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1939.4 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

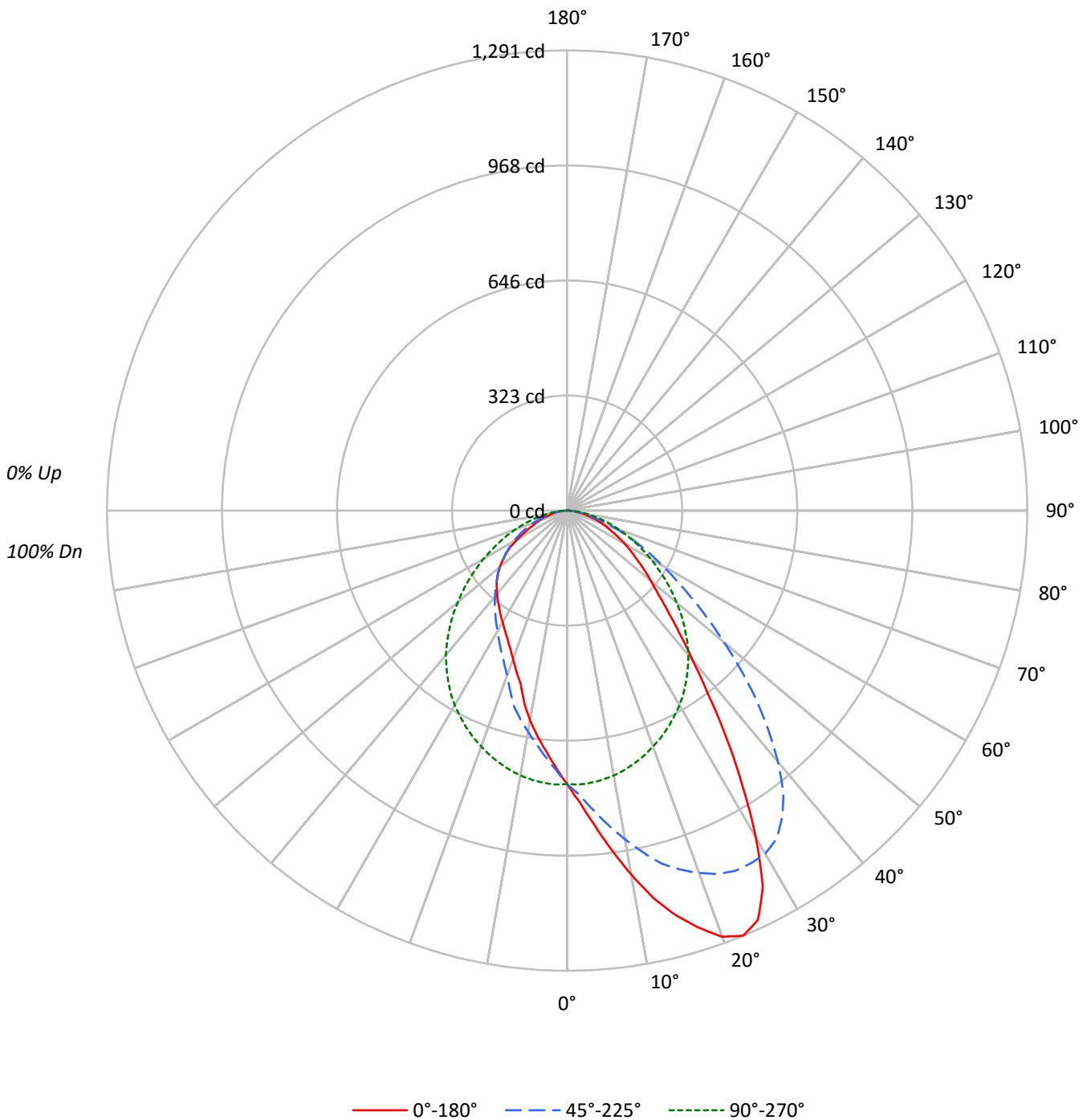
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6820	6820	6820
5°	7910	6840	6046
10°	9358	6810	5396
15°	10809	6747	4637
20°	12035	6661	4193
25°	12424	6576	3893
30°	10876	6472	3712
35°	8466	6320	3603
40°	6348	6144	3544
45°	5013	5863	3512
50°	4232	5540	3412
55°	3688	5184	3228
60°	3319	4814	2857
65°	2926	4415	2457
70°	2635	4000	2217
75°	2208	3544	1889
80°	1868	3020	1771
85°	1581	2366	1581



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.3	3.8
10°-20°	224.3	11.6
20°-30°	351.4	18.1
30°-40°	390.2	20.1
40°-50°	345.8	17.8
50°-60°	269.5	13.9
60°-70°	176.3	9.1
70°-80°	86.5	4.5
80°-90°	21.1	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	650.0	33.5
0°-40°	1040.3	53.6
0°-60°	1655.6	85.4
0°-90°	1939.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1939.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	767	767	767	767	767	
5°	886	844	767	694	678	89
15°	1175	1026	733	571	504	334
25°	1267	1115	670	437	397	566
35°	780	1052	582	351	332	488
45°	399	750	466	279	279	314
55°	238	424	334	210	208	216
65°	139	218	210	136	117	140
75°	64	83	103	66	55	71
85°	16	17	23	16	16	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2
2.5°	819.8	822.5	819.8	819.5	816.4	815.4	814.2	810.2	802.8	798.4	799.4
5°	886.5	894.3	889.9	889.3	882.5	875.7	871.4	861.5	851.0	843.9	838.0
7.5°	960.7	965.4	962.3	958.9	947.1	943.4	933.2	921.5	903.8	890.5	878.5
10°	1036.8	1040.5	1039.2	1031.2	1023.2	1006.8	997.5	979.3	955.5	936.6	919.0
12.5°	1111.6	1115.6	1102.3	1104.8	1087.8	1075.7	1059.6	1035.5	1007.1	981.4	958.2
15°	1174.6	1169.7	1169.7	1163.5	1146.5	1128.6	1113.4	1089.3	1054.7	1025.6	995.0
17.5°	1226.6	1228.7	1226.2	1210.5	1198.1	1179.9	1152.7	1125.2	1095.2	1056.2	1025.9
20°	1272.3	1272.3	1269.5	1259.6	1242.3	1222.5	1192.6	1161.9	1121.1	1081.9	1046.7
22.5°	1290.8	1292.1	1288.7	1281.0	1265.8	1246.6	1222.2	1191.0	1148.7	1103.2	1057.5
25°	1266.7	1272.6	1273.2	1271.1	1266.4	1254.7	1232.7	1200.9	1163.2	1115.3	1068.3
27.5°	1188.8	1196.6	1199.7	1206.5	1219.1	1223.8	1221.0	1199.7	1163.2	1115.9	1069.2
30°	1059.6	1065.8	1085.9	1112.2	1132.6	1151.1	1167.2	1171.5	1153.0	1111.6	1061.8
32.5°	916.2	925.2	945.3	974.0	1011.4	1046.0	1087.1	1109.1	1113.1	1092.4	1047.3
35°	780.2	786.4	804.9	834.6	875.4	922.1	979.3	1023.8	1054.1	1051.9	1023.8
37.5°	649.8	658.4	677.3	701.7	741.9	801.5	855.6	915.3	969.7	996.3	982.0
40°	547.1	547.4	565.7	591.0	628.1	678.5	738.8	806.8	869.2	920.2	930.1
42.5°	466.1	466.1	476.6	504.5	528.6	575.3	632.1	699.5	775.3	836.1	866.4
45°	398.8	401.5	411.4	427.8	448.8	489.0	535.1	597.8	679.7	749.6	793.2
47.5°	345.6	350.5	356.4	371.2	388.6	416.7	455.9	514.7	582.7	660.3	720.5
50°	306.0	306.6	314.7	322.1	336.6	358.0	391.3	438.3	499.5	573.4	642.3
52.5°	272.0	271.7	275.7	285.6	296.7	312.2	337.5	379.3	431.8	496.1	567.8
55°	238.0	239.6	243.3	250.7	259.7	271.4	292.7	324.9	367.5	424.1	488.7
57.5°	212.1	213.0	216.4	219.2	227.8	236.5	253.8	277.0	314.4	361.7	425.0
60°	186.7	187.0	187.9	192.6	199.1	207.1	217.9	236.8	267.1	309.4	357.0
62.5°	162.0	162.6	164.1	167.2	171.9	176.8	188.2	202.5	226.3	260.9	302.6
65°	139.1	139.4	141.6	142.8	146.8	151.8	160.1	170.3	187.6	217.9	250.4
67.5°	119.9	119.9	119.9	121.8	124.9	128.3	133.8	142.5	156.4	175.9	206.2
70°	101.4	101.4	102.0	102.9	104.5	107.3	110.0	116.2	125.8	141.0	162.9
72.5°	84.1	84.4	85.0	85.0	85.6	87.8	89.6	93.0	99.5	110.0	126.7
75°	64.3	65.2	66.8	68.0	69.6	69.2	71.4	73.9	76.0	82.8	93.0
77.5°	50.7	50.1	50.1	51.3	51.6	51.9	53.5	55.6	57.5	61.2	64.9
80°	36.5	36.5	37.4	37.7	37.4	37.7	39.3	40.2	40.8	42.0	45.4
82.5°	25.3	26.0	25.3	25.7	26.0	26.3	27.5	27.5	28.1	28.4	29.4
85°	15.5	15.8	16.1	15.5	15.5	15.5	16.1	16.4	17.0	16.7	17.3
87.5°	6.8	6.5	6.8	6.8	7.1	6.8	7.1	7.7	7.1	7.4	7.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2
2.5°	796.3	791.9	789.8	784.8	779.0	775.9	773.1	769.1	763.8	758.2	754.2
5°	830.6	823.2	813.9	802.8	792.9	783.3	774.9	766.6	757.0	747.1	737.2
7.5°	864.6	851.3	837.1	820.1	803.7	788.5	774.9	761.7	746.5	732.9	720.2
10°	900.4	880.7	858.7	835.5	812.3	792.3	772.5	754.5	734.8	717.1	702.3
12.5°	929.5	905.4	877.9	847.6	818.5	793.2	769.7	745.0	721.8	702.3	681.3
15°	962.3	930.4	894.9	860.3	824.1	791.0	760.4	733.2	707.6	680.7	661.8
17.5°	984.8	948.0	906.0	865.8	824.4	786.1	751.4	719.9	690.6	663.7	641.4
20°	1004.6	962.9	915.0	867.7	819.8	778.0	740.0	704.2	673.6	643.9	620.7
22.5°	1015.7	968.4	915.0	864.9	814.8	768.8	726.1	688.4	654.4	624.7	598.4
25°	1016.4	966.9	913.4	856.5	802.1	754.2	711.0	670.5	633.4	603.7	576.5
27.5°	1013.9	956.7	902.9	845.1	789.2	738.2	693.3	650.4	613.6	582.1	554.2
30°	1006.5	944.0	885.3	824.7	767.8	719.3	671.4	630.6	591.9	558.9	530.7
32.5°	990.4	928.6	864.3	801.8	744.0	693.6	648.8	607.7	570.0	536.0	505.7
35°	968.1	905.4	836.8	773.1	716.5	664.6	621.9	582.4	546.2	510.0	478.5
37.5°	942.5	876.9	809.3	739.4	683.1	633.7	593.8	555.8	520.5	487.5	452.5
40°	902.9	844.5	774.0	704.8	646.7	599.4	563.2	529.5	494.0	461.2	426.3
42.5°	855.0	807.4	736.0	666.4	609.3	564.1	531.1	498.3	466.8	435.2	398.4
45°	800.6	762.9	696.1	629.4	571.5	526.4	495.5	466.4	438.0	407.7	373.4
47.5°	740.0	712.2	654.1	584.2	530.1	488.7	459.0	434.9	409.9	379.3	348.4
50°	676.3	660.0	604.3	541.9	490.9	453.5	422.9	400.6	380.5	351.5	324.6
52.5°	608.3	601.5	556.7	497.7	448.8	412.4	387.3	367.8	347.4	324.6	299.8
55°	539.1	543.7	503.9	452.2	405.9	375.0	351.2	334.5	317.1	296.7	277.3
57.5°	467.1	484.7	455.0	408.3	363.5	334.5	316.2	301.4	286.9	269.5	251.9
60°	403.7	417.9	402.8	362.9	324.9	298.3	281.6	270.8	256.3	240.8	228.1
62.5°	341.9	357.3	349.9	319.6	285.0	263.1	248.8	238.9	229.1	216.1	202.8
65°	292.1	302.0	297.7	275.4	250.4	230.9	217.3	209.9	200.0	190.1	178.4
67.5°	233.7	253.2	250.1	237.7	213.6	198.1	188.6	181.8	172.5	165.1	156.7
70°	183.9	201.5	201.2	191.6	179.9	165.7	159.5	153.9	145.9	138.8	132.3
72.5°	142.2	158.0	161.0	154.2	147.1	137.2	131.4	128.0	120.2	115.9	111.0
75°	105.4	117.2	120.2	120.2	116.5	111.0	105.7	103.2	97.7	93.4	90.3
77.5°	74.2	82.2	86.9	87.8	88.1	85.9	81.0	79.1	74.8	73.3	69.9
80°	48.8	53.8	59.3	61.2	62.7	62.1	60.3	59.0	55.0	53.5	52.2
82.5°	30.0	32.1	36.5	41.1	40.2	42.3	40.8	39.9	37.1	36.8	35.5
85°	17.6	17.9	18.5	21.3	22.9	23.5	23.8	23.2	22.3	22.3	20.1
87.5°	7.4	7.1	7.7	7.7	8.0	9.3	10.2	10.5	9.6	8.7	7.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2
2.5°	749.9	746.8	742.8	738.2	732.6	727.6	725.5	727.3	728.3	725.8	725.5
5°	730.4	722.7	716.5	707.2	699.8	693.6	689.3	687.5	688.1	683.1	681.9
7.5°	708.8	700.4	690.2	679.7	669.8	661.2	656.6	654.4	649.1	647.0	643.6
10°	688.1	675.7	665.8	652.8	641.1	630.3	625.0	620.7	615.4	613.0	607.7
12.5°	666.8	651.9	640.8	627.2	615.1	601.5	596.6	587.6	578.7	572.8	565.7
15°	647.0	629.7	616.4	600.3	586.1	571.2	557.9	543.1	537.5	525.8	519.0
17.5°	623.5	605.5	590.7	570.0	548.7	530.7	515.9	500.5	492.1	484.1	480.7
20°	600.3	584.2	561.3	536.3	511.9	491.5	480.0	470.8	461.5	456.2	452.5
22.5°	578.3	556.7	529.2	501.7	477.3	462.4	453.2	443.6	436.5	431.5	426.3
25°	553.3	526.4	498.3	467.4	450.7	436.8	426.3	418.5	413.9	407.4	404.9
27.5°	528.9	496.4	464.6	443.6	426.3	413.0	403.4	397.8	391.6	387.3	383.9
30°	499.8	466.8	438.9	419.2	401.5	391.0	383.6	376.8	372.2	368.8	366.3
32.5°	471.1	438.0	415.8	394.1	381.1	370.9	362.9	358.3	354.9	350.2	349.0
35°	443.6	414.2	393.8	374.6	360.4	351.2	345.0	339.7	336.6	335.4	334.5
37.5°	416.7	392.3	369.7	354.2	340.9	333.8	325.8	323.3	321.2	318.4	319.6
40°	391.3	368.8	349.3	332.6	322.4	314.4	310.0	306.9	305.1	305.1	305.1
42.5°	369.4	347.4	328.6	314.1	303.9	297.4	292.4	289.9	289.6	289.3	291.2
45°	346.5	326.1	306.9	294.6	285.9	279.1	276.3	274.2	274.2	275.4	275.7
47.5°	323.6	304.5	289.0	274.8	266.8	262.4	260.0	258.7	258.7	260.3	261.5
50°	302.9	284.1	268.9	256.6	249.1	245.1	243.0	242.3	243.0	243.0	245.1
52.5°	280.4	264.0	249.1	239.3	230.6	226.9	226.0	225.0	225.3	226.6	227.2
55°	258.4	243.3	229.1	219.2	213.0	210.5	207.7	208.0	207.4	208.0	208.0
57.5°	236.2	222.9	209.0	200.9	195.7	192.0	188.9	189.8	188.9	188.9	188.6
60°	214.8	200.0	189.5	182.4	176.2	173.1	170.3	170.9	170.0	169.4	168.2
62.5°	191.6	179.9	170.0	163.2	158.6	154.9	152.1	151.2	148.7	146.2	143.1
65°	169.4	159.2	150.2	143.7	139.1	136.3	134.2	132.3	127.7	122.7	120.2
67.5°	147.4	140.0	131.4	125.8	122.1	118.4	114.4	111.0	106.3	103.2	101.7
70°	126.4	119.3	112.2	107.0	102.9	99.5	94.9	92.7	89.6	88.4	86.9
72.5°	106.3	99.8	93.4	88.7	84.4	81.9	78.5	76.4	75.4	75.1	73.6
75°	85.9	80.7	75.7	71.4	68.0	66.1	64.6	63.1	62.4	59.7	58.1
77.5°	66.1	62.4	59.3	55.9	53.8	52.5	49.1	47.0	45.7	44.2	43.9
80°	48.8	46.4	43.3	41.4	38.0	36.8	35.5	35.2	34.9	34.6	34.3
82.5°	33.7	31.2	28.1	27.2	26.9	26.3	25.7	25.3	25.0	25.3	25.3
85°	18.5	17.3	17.3	17.0	16.7	16.4	16.1	16.1	15.8	16.1	15.8
87.5°	7.7	7.4	7.4	6.8	7.1	7.1	6.8	6.8	7.1	6.5	6.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: S124RDR-S575D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	767.2	767.2	767.2	767.2
2.5°	723.6	724.2	722.1	721.5
5°	679.4	678.8	677.3	677.6
7.5°	641.1	638.9	640.5	638.0
10°	606.5	603.1	600.3	597.8
12.5°	559.2	556.4	552.4	553.9
15°	515.0	510.3	502.9	503.9
17.5°	475.4	476.0	471.7	472.9
20°	446.0	443.9	444.2	443.3
22.5°	425.6	422.9	420.1	417.9
25°	402.2	400.3	397.5	396.9
27.5°	381.4	381.1	379.9	378.4
30°	363.8	363.2	362.6	361.7
32.5°	348.1	347.8	347.1	347.4
35°	333.2	332.9	332.3	332.0
37.5°	319.3	320.2	319.6	319.6
40°	304.8	305.1	305.7	305.4
42.5°	292.7	292.7	293.7	292.4
45°	277.9	279.7	279.4	279.4
47.5°	262.1	264.3	264.6	264.6
50°	246.7	246.1	247.0	246.7
52.5°	227.8	228.1	227.8	227.5
55°	208.3	208.7	208.0	208.3
57.5°	187.6	186.4	187.3	186.7
60°	165.1	162.6	162.0	160.7
62.5°	139.7	138.2	135.7	137.2
65°	117.8	116.5	115.6	116.8
67.5°	100.2	99.5	99.5	98.9
70°	86.9	85.9	85.9	85.3
72.5°	73.3	72.3	72.6	72.3
75°	56.3	54.7	54.7	55.0
77.5°	43.9	43.6	44.2	43.3
80°	34.3	34.0	33.7	34.6
82.5°	24.7	24.7	24.7	26.0
85°	16.1	15.5	16.1	15.5
87.5°	7.1	6.8	6.5	6.8
90°	0.0	0.0	0.0	0.0

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