

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: P242762

Luminaire Tested: **S124RDR-S575D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242762
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-S575D940-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2008.6 lumens
Efficiency: N/A
Efficacy: 106.8 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

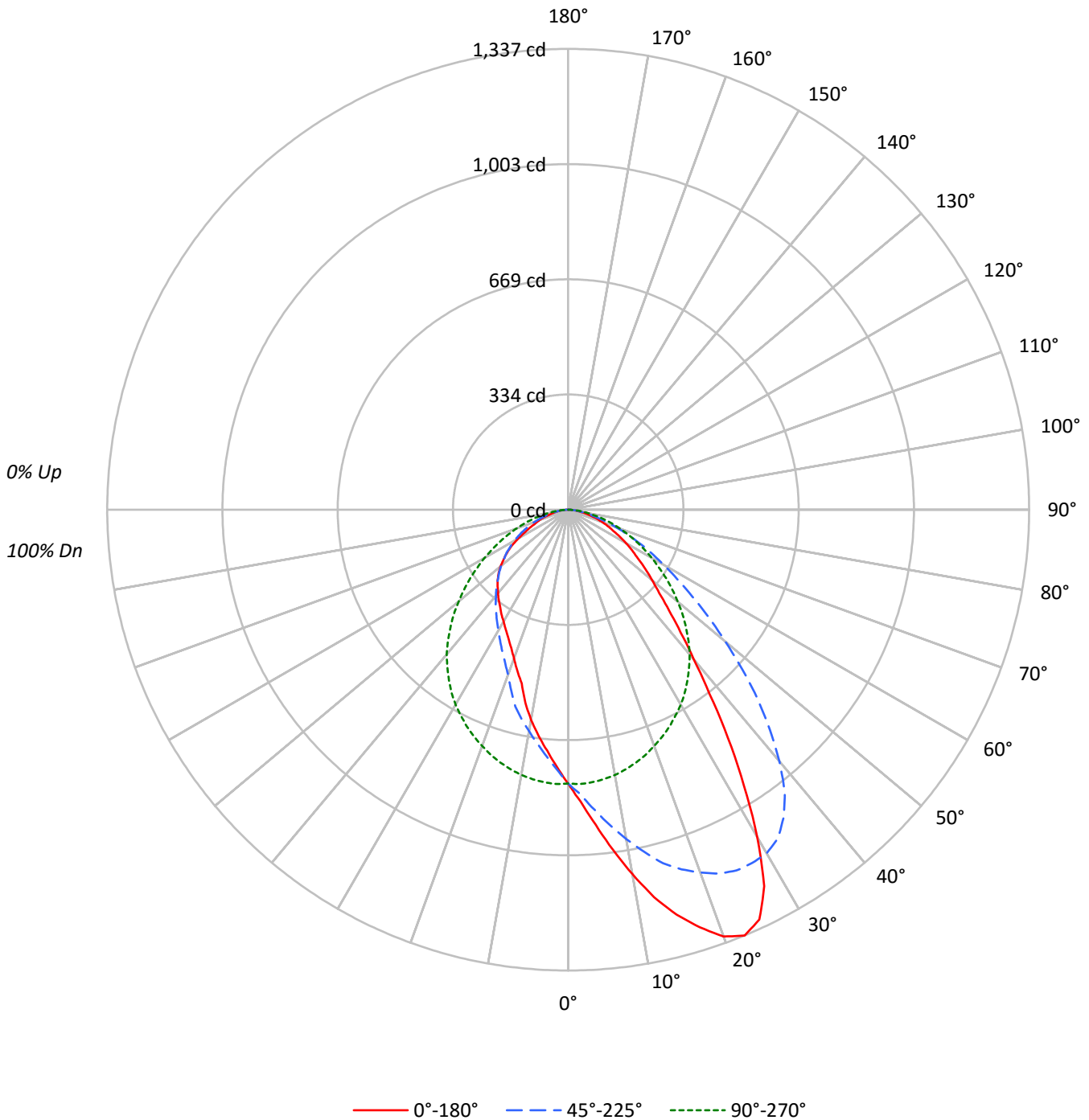
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	7063	7063	7063
5°	8193	7084	6261
10°	9691	7054	5588
15°	11195	6988	4802
20°	12465	6899	4343
25°	12867	6811	4032
30°	11264	6703	3845
35°	8768	6544	3731
40°	6575	6363	3670
45°	5192	6073	3638
50°	4382	5738	3533
55°	3820	5368	3344
60°	3438	4985	2960
65°	3031	4573	2545
70°	2729	4143	2297
75°	2287	3671	1958
80°	1935	3128	1838
85°	1632	2448	1632



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.9	3.8
10°-20°	232.3	11.6
20°-30°	363.9	18.1
30°-40°	404.2	20.1
40°-50°	358.2	17.8
50°-60°	279.1	13.9
60°-70°	182.6	9.1
70°-80°	89.6	4.5
80°-90°	21.8	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°	673.2	33.5
0°-40°	1077.4	53.6
0°-60°	1714.6	85.4
0°-90°	2008.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2008.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	795	795	795	795	795	
5°	918	874	794	718	702	92
15°	1216	1062	759	592	522	346
25°	1312	1155	694	452	411	586
35°	808	1089	603	364	344	506
45°	413	776	483	289	289	326
55°	246	439	346	218	216	224
65°	144	226	217	141	121	145
75°	67	86	107	68	57	73
85°	16	17	24	17	16	19
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°	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6
2.5°	849.0	851.9	849.0	848.7	845.5	844.5	843.2	839.1	831.4	826.9	827.9
5°	918.2	926.2	921.7	921.0	914.0	906.9	902.5	892.2	881.3	874.0	867.9
7.5°	995.0	999.8	996.6	993.1	980.9	977.1	966.5	954.3	936.1	922.3	909.8
10°	1073.7	1077.6	1076.3	1068.0	1059.7	1042.7	1033.1	1014.2	989.5	970.0	951.8
12.5°	1151.2	1155.4	1141.6	1144.2	1126.6	1114.1	1097.4	1072.5	1043.0	1016.4	992.4
15°	1216.5	1211.4	1211.4	1205.0	1187.4	1168.8	1153.1	1128.2	1092.3	1062.2	1030.5
17.5°	1270.3	1272.5	1270.0	1253.7	1240.9	1222.0	1193.8	1165.3	1134.2	1093.9	1062.5
20°	1317.7	1317.7	1314.8	1304.6	1286.6	1266.1	1235.1	1203.4	1161.1	1120.5	1084.0
22.5°	1336.9	1338.2	1334.7	1326.6	1311.0	1291.1	1265.8	1233.5	1189.6	1142.6	1095.2
25°	1311.9	1318.0	1318.6	1316.4	1311.6	1299.4	1276.7	1243.7	1204.7	1155.1	1106.4
27.5°	1231.2	1239.2	1242.5	1249.5	1262.6	1267.4	1264.5	1242.5	1204.7	1155.7	1107.4
30°	1097.4	1103.8	1124.6	1151.9	1173.0	1192.2	1208.8	1213.3	1194.1	1151.2	1099.7
32.5°	948.9	958.2	979.0	1008.8	1047.5	1083.3	1125.9	1148.7	1152.8	1131.4	1084.6
35°	808.0	814.4	833.6	864.4	906.6	955.0	1014.2	1060.3	1091.7	1089.4	1060.3
37.5°	672.9	681.9	701.4	726.7	768.3	830.1	886.1	947.9	1004.3	1031.8	1017.1
40°	566.6	567.0	585.9	612.1	650.5	702.7	765.1	835.6	900.2	953.0	963.3
42.5°	482.8	482.8	493.7	522.5	547.4	595.8	654.7	724.5	802.9	866.0	897.3
45°	413.0	415.9	426.1	443.1	464.8	506.5	554.2	619.1	704.0	776.3	821.5
47.5°	357.9	363.0	369.1	384.5	402.4	431.5	472.2	533.0	603.5	683.8	746.2
50°	316.9	317.6	325.9	333.6	348.6	370.7	405.3	454.0	517.3	593.9	665.2
52.5°	281.7	281.4	285.6	295.8	307.3	323.3	349.6	392.8	447.2	513.8	588.1
55°	246.5	248.1	251.9	259.6	268.9	281.1	303.2	336.5	380.6	439.2	506.1
57.5°	219.6	220.6	224.1	227.0	235.9	244.9	262.8	286.8	325.6	374.6	440.2
60°	193.4	193.7	194.6	199.4	206.2	214.5	225.7	245.2	276.6	320.5	369.8
62.5°	167.8	168.4	170.0	173.2	178.0	183.1	195.0	209.7	234.3	270.2	313.4
65°	144.1	144.4	146.6	147.9	152.1	157.2	165.8	176.4	194.3	225.7	259.3
67.5°	124.2	124.2	124.2	126.1	129.3	132.9	138.6	147.6	162.0	182.2	213.5
70°	105.0	105.0	105.6	106.6	108.2	111.1	114.0	120.4	130.3	146.0	168.7
72.5°	87.1	87.4	88.0	88.0	88.7	90.9	92.8	96.4	103.1	114.0	131.3
75°	66.6	67.5	69.1	70.4	72.0	71.7	74.0	76.5	78.8	85.8	96.4
77.5°	52.5	51.9	51.9	53.1	53.5	53.8	55.4	57.6	59.5	63.4	67.2
80°	37.8	37.8	38.7	39.1	38.7	39.1	40.7	41.6	42.3	43.5	47.1
82.5°	26.3	26.9	26.3	26.6	26.9	27.2	28.5	28.5	29.1	29.5	30.4
85°	16.0	16.3	16.6	16.0	16.0	16.0	16.6	17.0	17.6	17.3	17.9
87.5°	7.0	6.7	7.0	7.0	7.4	7.0	7.4	8.0	7.4	7.7	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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6
2.5°	824.7	820.2	817.9	812.8	806.7	803.5	800.7	796.5	791.1	785.3	781.1
5°	860.2	852.5	842.9	831.4	821.2	811.2	802.6	793.9	784.0	773.8	763.5
7.5°	895.4	881.7	866.9	849.3	832.4	816.7	802.6	788.8	773.1	759.0	745.9
10°	932.6	912.1	889.3	865.3	841.3	820.5	800.0	781.5	761.0	742.7	727.4
12.5°	962.7	937.7	909.2	877.8	847.7	821.5	797.1	771.5	747.5	727.4	705.6
15°	996.6	963.6	926.8	890.9	853.5	819.2	787.5	759.4	732.8	704.9	685.4
17.5°	1020.0	981.9	938.3	896.7	853.8	814.1	778.3	745.6	715.2	687.3	664.3
20°	1040.4	997.2	947.6	898.6	849.0	805.8	766.4	729.3	697.6	666.8	642.8
22.5°	1052.0	1003.0	947.6	895.7	843.9	796.2	752.0	712.9	677.7	647.0	619.8
25°	1052.6	1001.4	946.0	887.1	830.8	781.1	736.3	694.4	656.0	625.2	597.1
27.5°	1050.0	990.8	935.1	875.3	817.3	764.5	718.1	673.6	635.5	602.8	574.0
30°	1042.4	977.7	916.9	854.1	795.2	745.0	695.3	653.1	613.1	578.8	549.7
32.5°	1025.7	961.7	895.1	830.4	770.6	718.4	672.0	629.4	590.3	555.1	523.7
35°	1002.7	937.7	866.6	800.7	742.1	688.3	644.1	603.1	565.7	528.2	495.6
37.5°	976.1	908.2	838.1	765.8	707.5	656.3	615.0	575.6	539.1	504.9	468.7
40°	935.1	874.6	801.6	729.9	669.7	620.7	583.3	548.4	511.6	477.6	441.5
42.5°	885.5	836.2	762.2	690.2	631.0	584.2	550.0	516.1	483.4	450.8	412.7
45°	829.2	790.1	720.9	651.8	591.9	545.2	513.2	483.1	453.6	422.3	386.7
47.5°	766.4	737.6	677.4	605.1	549.0	506.1	475.4	450.4	424.5	392.8	360.8
50°	700.5	683.5	625.9	561.2	508.4	469.6	437.9	414.9	394.1	364.0	336.1
52.5°	630.0	623.0	576.6	515.4	464.8	427.1	401.1	381.0	359.8	336.1	310.5
55°	558.3	563.1	521.8	468.4	420.3	388.3	363.7	346.4	328.5	307.3	287.2
57.5°	483.7	502.0	471.2	422.9	376.5	346.4	327.5	312.1	297.1	279.2	260.9
60°	418.1	432.8	417.1	375.8	336.5	308.9	291.6	280.4	265.4	249.4	236.3
62.5°	354.1	370.1	362.4	331.0	295.2	272.4	257.7	247.5	237.2	223.8	210.0
65°	302.5	312.8	308.3	285.2	259.3	239.1	225.1	217.4	207.1	196.9	184.7
67.5°	242.0	262.2	259.0	246.2	221.2	205.2	195.3	188.2	178.6	171.0	162.3
70°	190.5	208.7	208.4	198.5	186.3	171.6	165.2	159.4	151.1	143.7	137.0
72.5°	147.3	163.6	166.8	159.7	152.4	142.1	136.1	132.5	124.5	120.1	114.9
75°	109.2	121.3	124.5	124.5	120.7	114.9	109.5	106.9	101.2	96.7	93.5
77.5°	76.8	85.2	90.0	90.9	91.2	89.0	83.9	82.0	77.5	75.9	72.4
80°	50.6	55.7	61.5	63.4	65.0	64.3	62.4	61.1	57.0	55.4	54.1
82.5°	31.1	33.3	37.8	42.6	41.6	43.9	42.3	41.3	38.4	38.1	36.8
85°	18.2	18.6	19.2	22.1	23.7	24.3	24.7	24.0	23.0	23.0	20.8
87.5°	7.7	7.4	8.0	8.0	8.3	9.6	10.6	10.9	9.9	9.0	8.0
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°	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6
2.5°	776.7	773.5	769.3	764.5	758.7	753.6	751.4	753.3	754.2	751.7	751.4
5°	756.5	748.5	742.1	732.5	724.8	718.4	713.9	712.0	712.6	707.5	706.2
7.5°	734.1	725.4	714.9	704.0	693.7	684.8	680.0	677.7	672.3	670.0	666.5
10°	712.6	699.8	689.6	676.1	664.0	652.8	647.3	642.8	637.4	634.8	629.4
12.5°	690.5	675.2	663.6	649.6	637.1	623.0	617.9	608.6	599.3	593.2	585.9
15°	670.0	652.1	638.4	621.7	607.0	591.6	577.8	562.5	556.7	544.6	537.5
17.5°	645.7	627.1	611.8	590.3	568.2	549.7	534.3	518.3	509.7	501.3	497.8
20°	621.7	605.1	581.4	555.4	530.1	509.0	497.2	487.6	478.0	472.5	468.7
22.5°	599.0	576.6	548.1	519.6	494.3	478.9	469.3	459.4	452.0	446.9	441.5
25°	573.0	545.2	516.1	484.0	466.8	452.4	441.5	433.5	428.7	421.9	419.4
27.5°	547.8	514.1	481.2	459.4	441.5	427.7	417.8	412.0	405.6	401.1	397.6
30°	517.7	483.4	454.6	434.1	415.9	405.0	397.3	390.2	385.4	381.9	379.4
32.5°	487.9	453.6	430.6	408.2	394.7	384.2	375.8	371.0	367.5	362.7	361.4
35°	459.4	429.0	407.9	388.0	373.3	363.7	357.3	351.8	348.6	347.3	346.4
37.5°	431.5	406.3	382.9	366.9	353.1	345.7	337.4	334.9	332.6	329.7	331.0
40°	405.3	381.9	361.8	344.5	333.9	325.6	321.1	317.9	316.0	316.0	316.0
42.5°	382.6	359.8	340.3	325.3	314.7	308.0	302.8	300.3	300.0	299.6	301.6
45°	358.9	337.7	317.9	305.1	296.1	289.1	286.2	284.0	284.0	285.2	285.6
47.5°	335.2	315.3	299.3	284.6	276.3	271.8	269.2	268.0	268.0	269.6	270.8
50°	313.7	294.2	278.5	265.7	258.0	253.9	251.6	251.0	251.6	251.6	253.9
52.5°	290.4	273.4	258.0	247.8	238.8	235.0	234.0	233.1	233.4	234.7	235.3
55°	267.6	251.9	237.2	227.0	220.6	218.0	215.1	215.5	214.8	215.5	215.5
57.5°	244.6	230.8	216.4	208.1	202.6	198.8	195.6	196.6	195.6	195.6	195.3
60°	222.5	207.1	196.2	188.9	182.5	179.3	176.4	177.0	176.1	175.4	174.2
62.5°	198.5	186.3	176.1	169.0	164.2	160.4	157.5	156.5	154.0	151.4	148.2
65°	175.4	164.9	155.6	148.9	144.1	141.2	138.9	137.0	132.2	127.1	124.5
67.5°	152.7	145.0	136.1	130.3	126.5	122.6	118.5	114.9	110.1	106.9	105.3
70°	130.9	123.6	116.2	110.8	106.6	103.1	98.3	96.0	92.8	91.6	90.0
72.5°	110.1	103.4	96.7	91.9	87.4	84.8	81.3	79.1	78.1	77.8	76.2
75°	89.0	83.6	78.4	74.0	70.4	68.5	66.9	65.3	64.7	61.8	60.2
77.5°	68.5	64.7	61.5	57.9	55.7	54.4	50.9	48.7	47.4	45.8	45.5
80°	50.6	48.0	44.8	42.9	39.4	38.1	36.8	36.5	36.2	35.9	35.5
82.5°	34.9	32.3	29.1	28.2	27.9	27.2	26.6	26.3	25.9	26.3	26.3
85°	19.2	17.9	17.9	17.6	17.3	17.0	16.6	16.6	16.3	16.6	16.3
87.5°	8.0	7.7	7.7	7.0	7.4	7.4	7.0	7.0	7.4	6.7	6.7
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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CATALOG NUMBER: S124RDR-S575D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	794.6	794.6	794.6	794.6
2.5°	749.4	750.1	747.8	747.2
5°	703.7	703.0	701.4	701.7
7.5°	664.0	661.7	663.3	660.8
10°	628.1	624.6	621.7	619.1
12.5°	579.1	576.2	572.1	573.7
15°	533.3	528.5	520.9	521.8
17.5°	492.4	493.0	488.5	489.8
20°	462.0	459.7	460.0	459.1
22.5°	440.8	437.9	435.1	432.8
25°	416.5	414.6	411.7	411.1
27.5°	395.0	394.7	393.4	391.8
30°	376.8	376.2	375.5	374.6
32.5°	360.5	360.2	359.5	359.8
35°	345.1	344.8	344.1	343.8
37.5°	330.7	331.7	331.0	331.0
40°	315.7	316.0	316.6	316.3
42.5°	303.2	303.2	304.1	302.8
45°	287.8	289.7	289.4	289.4
47.5°	271.5	273.7	274.0	274.0
50°	255.5	254.8	255.8	255.5
52.5°	235.9	236.3	235.9	235.6
55°	215.8	216.1	215.5	215.8
57.5°	194.3	193.0	194.0	193.4
60°	171.0	168.4	167.8	166.5
62.5°	144.7	143.1	140.5	142.1
65°	122.0	120.7	119.7	121.0
67.5°	103.7	103.1	103.1	102.4
70°	90.0	89.0	89.0	88.4
72.5°	75.9	74.9	75.2	74.9
75°	58.3	56.7	56.7	57.0
77.5°	45.5	45.1	45.8	44.8
80°	35.5	35.2	34.9	35.9
82.5°	25.6	25.6	25.6	26.9
85°	16.6	16.0	16.6	16.0
87.5°	7.4	7.0	6.7	7.0
90°	0.0	0.0	0.0	0.0

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