

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: P242649

Luminaire Tested: **S124DR-S575D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242649
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-21)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DR-S575D930-X4F0-XX-UDD-A-W
Description: DEFINE 4 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1949.8 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

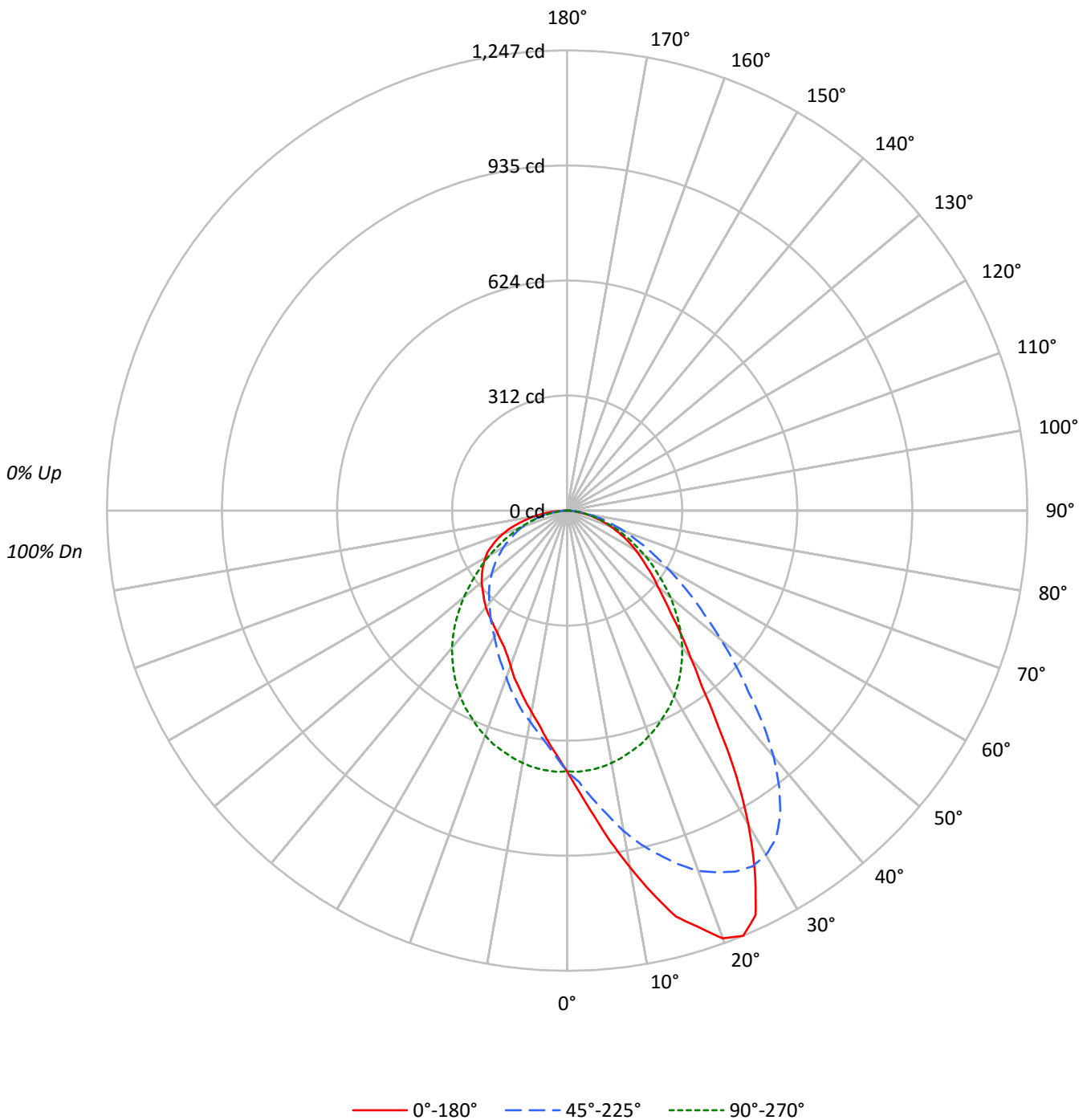
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49	46
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6281	6281	6281
5°	7396	6297	5558
10°	8855	6269	5004
15°	10478	6206	4596
20°	11668	6141	4231
25°	11857	6046	3979
30°	10089	5954	3899
35°	7757	5807	3900
40°	6046	5631	3974
45°	5041	5369	4040
50°	4436	5047	4178
55°	4065	4663	4345
60°	3810	4318	4548
65°	3546	3933	4716
70°	3241	3553	4824
75°	2895	3125	4764
80°	2426	2565	4617
85°	1795	1846	4416



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.8	3.5
10°-20°	212.3	10.9
20°-30°	337.2	17.3
30°-40°	374.7	19.2
40°-50°	340.8	17.5
50°-60°	278.4	14.3
60°-70°	198.8	10.2
70°-80°	109.4	5.6
80°-90°	29.5	1.5
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°	618.2	31.7
0°-40°	992.9	50.9
0°-60°	1612.1	82.7
0°-90°	1949.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1949.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	707	707	707	707	707	
5°	829	783	706	634	623	84
15°	1139	966	674	532	499	322
25°	1209	1079	616	437	406	536
35°	715	1007	535	361	359	452
45°	401	695	427	299	321	315
55°	262	418	301	234	280	237
65°	169	233	187	162	224	167
75°	84	109	91	90	139	90
85°	18	22	18	26	43	22
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°	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6
2.5°	763.4	763.1	760.2	759.6	757.5	754.9	754.3	749.6	740.3	735.9	734.7
5°	828.9	834.8	827.2	825.7	824.8	815.2	810.2	804.4	790.9	783.0	776.8
7.5°	905.6	905.9	902.7	899.5	893.9	885.7	874.6	861.7	846.2	830.4	819.3
10°	981.1	983.5	979.7	979.1	964.2	954.8	936.1	920.3	902.1	881.9	863.5
12.5°	1060.8	1056.1	1054.6	1039.1	1039.4	1020.4	997.8	981.4	951.0	927.0	900.9
15°	1138.6	1132.2	1128.1	1110.8	1102.3	1078.6	1055.5	1037.6	1001.1	966.2	939.9
17.5°	1183.7	1191.6	1181.1	1174.0	1150.9	1135.4	1112.3	1075.7	1048.5	1005.1	975.0
20°	1233.5	1234.0	1228.8	1221.5	1204.2	1183.1	1157.4	1116.4	1082.1	1039.1	993.4
22.5°	1246.9	1246.9	1245.5	1238.7	1226.7	1210.6	1184.6	1152.1	1108.8	1061.1	1015.4
25°	1208.9	1207.7	1210.3	1217.9	1213.0	1207.7	1192.8	1167.3	1128.7	1079.2	1030.0
27.5°	1101.2	1108.8	1124.6	1143.3	1156.8	1168.8	1167.9	1157.1	1129.5	1086.8	1034.4
30°	982.9	992.9	1004.0	1022.7	1059.0	1079.8	1102.6	1119.9	1110.2	1077.7	1029.7
32.5°	852.9	853.5	871.4	893.3	925.8	970.6	1010.1	1049.6	1066.6	1053.4	1015.4
35°	714.8	718.9	736.7	757.8	798.5	847.4	901.8	950.4	990.5	1006.6	986.1
37.5°	598.9	611.8	625.2	649.2	686.4	730.6	789.1	849.7	908.6	944.3	948.1
40°	521.0	528.3	537.4	554.7	585.1	628.4	677.0	749.0	812.5	869.9	888.7
42.5°	459.5	463.1	467.7	483.0	504.3	547.4	590.7	651.9	715.7	787.1	821.6
45°	401.0	405.4	414.8	423.8	441.4	471.3	512.5	564.6	628.7	694.9	752.8
47.5°	357.1	360.0	365.9	375.8	391.6	411.8	447.0	491.2	553.8	617.9	680.0
50°	320.8	323.1	327.5	336.3	347.7	365.3	392.8	433.5	480.0	544.7	605.3
52.5°	292.1	292.7	295.6	300.9	309.4	323.4	344.8	376.7	419.2	475.1	535.4
55°	262.3	263.4	266.4	270.8	278.7	288.0	305.3	330.5	368.2	418.3	470.7
57.5°	237.7	238.8	241.2	242.9	250.0	257.9	271.9	290.1	319.6	364.1	411.8
60°	214.3	213.7	216.6	218.1	222.5	228.9	239.1	256.4	281.3	315.5	358.6
62.5°	191.4	190.6	192.9	194.9	197.0	202.3	210.2	222.7	241.8	271.9	307.6
65°	168.6	167.4	168.9	171.2	173.6	176.5	182.6	194.6	210.7	233.0	261.4
67.5°	145.2	146.6	146.6	148.1	149.6	153.7	158.1	167.4	178.8	197.0	222.2
70°	124.7	125.0	126.2	126.2	127.0	130.5	134.1	139.0	150.2	166.5	186.2
72.5°	104.2	105.7	104.8	106.0	106.5	108.6	110.9	115.6	124.7	135.8	151.6
75°	84.3	85.2	85.2	85.5	86.3	87.2	89.3	92.8	99.5	108.6	120.0
77.5°	65.0	65.0	65.6	66.7	66.7	68.2	70.0	72.6	76.4	83.1	90.4
80°	47.4	48.0	47.7	48.3	48.3	49.5	50.1	53.6	55.0	59.1	64.7
82.5°	31.6	32.2	32.2	33.1	33.7	33.7	34.5	35.4	36.9	40.4	41.9
85°	17.6	18.1	17.6	18.1	19.0	19.3	20.2	20.5	21.7	22.5	24.6
87.5°	6.4	7.3	7.3	7.6	8.2	8.5	8.8	8.5	9.7	10.0	11.1
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°	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6
2.5°	735.0	730.9	728.0	725.6	719.2	715.4	712.4	708.3	703.7	698.7	692.5
5°	770.7	760.7	753.4	742.3	731.8	723.0	713.9	705.7	695.8	684.9	677.0
7.5°	807.3	793.5	775.1	760.7	743.5	728.5	715.4	701.6	687.0	672.9	659.8
10°	841.8	822.8	801.7	776.8	753.4	732.6	713.3	694.6	676.4	658.3	642.8
12.5°	879.0	854.1	820.5	790.3	763.4	733.8	709.5	685.5	662.7	643.4	624.6
15°	911.5	877.2	841.2	802.3	767.8	735.3	703.4	674.4	649.8	624.6	607.1
17.5°	932.0	889.5	850.9	810.2	770.4	729.7	696.6	664.1	633.7	609.1	587.2
20°	952.2	910.0	858.8	818.1	768.4	726.2	686.4	649.2	617.0	590.4	567.6
22.5°	969.7	919.4	868.2	811.4	761.9	716.5	672.1	634.6	601.5	573.1	551.5
25°	973.8	917.9	862.3	809.0	752.8	699.9	660.3	616.4	581.3	551.7	528.3
27.5°	975.3	916.2	854.4	796.4	738.5	690.2	638.7	600.3	564.0	532.7	510.5
30°	972.1	909.7	842.1	778.0	719.8	666.2	622.9	580.1	543.0	511.9	488.5
32.5°	961.8	896.3	826.3	757.5	696.6	644.5	599.5	559.4	523.4	492.9	468.0
35°	940.2	876.1	802.0	731.5	669.7	616.7	576.3	535.1	498.8	469.8	446.1
37.5°	911.2	851.5	776.3	702.8	643.4	589.5	548.8	510.8	478.0	448.1	423.5
40°	870.8	819.9	744.3	673.2	607.7	557.0	519.6	485.3	452.8	425.0	401.9
42.5°	824.3	781.5	713.3	636.9	574.3	523.4	487.1	457.2	427.1	401.9	378.8
45°	767.2	737.9	672.3	602.7	536.8	488.8	454.0	427.1	401.3	376.1	356.8
47.5°	703.7	687.3	630.2	563.5	500.2	452.2	422.1	396.3	372.9	351.0	333.7
50°	639.6	632.5	584.8	521.0	461.3	416.8	386.4	365.0	345.7	327.0	310.9
52.5°	576.3	577.8	535.9	478.9	424.7	382.3	352.1	332.5	316.4	302.1	288.0
55°	511.6	519.8	486.2	434.1	384.6	346.0	318.8	300.9	289.2	276.6	265.8
57.5°	452.2	466.0	436.7	389.0	347.1	310.3	286.3	272.5	259.6	251.4	242.9
60°	394.3	407.2	385.5	346.9	307.9	277.5	254.9	242.9	232.1	226.8	221.3
62.5°	342.8	353.9	339.2	304.1	271.6	242.7	224.5	213.1	206.6	200.8	197.6
65°	294.2	303.8	290.1	264.0	235.0	211.6	196.1	187.0	180.0	177.7	173.6
67.5°	246.2	254.9	247.6	224.8	200.2	181.8	169.5	159.8	155.7	153.4	150.7
70°	204.3	213.1	205.2	185.9	168.0	153.1	141.7	136.7	132.3	131.4	127.3
72.5°	168.9	174.2	166.3	152.2	137.6	125.6	117.4	112.1	110.3	108.6	106.8
75°	132.0	137.3	132.0	120.3	109.5	100.7	93.1	91.0	88.4	87.5	86.1
77.5°	98.9	103.9	99.8	91.9	83.4	76.1	71.7	68.8	68.5	66.7	67.3
80°	71.4	74.3	70.5	65.6	59.1	54.4	51.5	50.1	48.3	47.7	48.9
82.5°	46.2	47.1	45.7	42.7	38.3	35.7	34.0	32.2	32.2	32.5	32.2
85°	26.6	26.3	26.1	23.1	21.7	19.6	18.4	18.1	17.9	18.4	19.0
87.5°	11.1	11.4	11.1	10.0	9.1	8.2	7.9	7.6	7.9	8.2	8.5
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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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6
2.5°	689.6	687.0	683.2	677.9	673.5	668.8	667.7	665.9	669.4	666.5	665.6
5°	670.3	664.1	656.2	647.2	641.9	634.3	632.8	629.9	627.0	626.7	623.8
7.5°	650.1	641.6	631.7	622.3	614.1	605.9	600.6	600.0	595.4	593.0	590.1
10°	630.8	619.7	607.7	598.9	588.9	580.1	574.0	570.5	567.6	564.3	561.4
12.5°	607.9	595.9	586.6	576.9	564.6	558.5	547.4	540.6	540.6	541.5	532.7
15°	591.3	579.6	564.3	550.9	544.4	531.6	526.0	519.0	514.6	510.2	506.7
17.5°	570.8	556.4	544.7	529.5	517.5	507.8	500.2	496.4	489.4	483.0	478.6
20°	551.7	536.2	523.6	507.3	493.8	481.2	475.1	469.2	464.2	459.0	454.0
22.5°	532.4	516.0	499.9	484.1	471.8	458.4	452.5	444.0	439.4	437.0	432.0
25°	511.9	494.4	476.8	461.6	448.7	437.0	429.1	423.0	417.7	415.3	412.1
27.5°	489.7	472.4	455.7	438.2	423.3	414.8	408.3	403.3	400.1	396.6	395.2
30°	468.6	450.5	432.3	416.2	402.8	394.3	388.4	385.2	382.9	381.4	379.9
32.5°	447.3	429.4	410.1	395.7	384.0	376.7	372.6	369.4	368.5	368.2	367.9
35°	424.1	406.0	388.4	375.2	363.8	360.9	357.1	355.3	354.8	356.8	357.7
37.5°	401.9	384.9	368.5	355.3	347.7	343.1	341.6	341.3	343.3	345.1	347.1
40°	380.5	364.1	348.9	337.8	330.8	328.1	327.5	329.0	331.3	333.4	335.7
42.5°	359.7	343.6	330.2	319.9	315.5	313.2	313.8	315.2	318.8	321.4	325.2
45°	338.1	324.6	311.1	302.7	298.6	299.1	299.1	301.8	305.0	308.8	312.6
47.5°	317.9	304.1	292.7	285.4	283.3	282.5	283.9	287.4	291.8	296.2	301.5
50°	297.4	284.5	274.8	268.4	266.1	266.9	269.3	272.5	278.1	283.9	289.5
52.5°	276.6	265.2	256.4	250.6	249.1	250.8	253.2	258.8	263.4	269.9	276.9
55°	254.9	245.0	238.0	233.6	233.0	233.9	236.5	242.1	249.1	257.0	263.4
57.5°	233.6	225.1	218.4	215.1	215.4	216.0	220.1	226.8	233.9	242.4	250.6
60°	211.9	204.3	199.0	196.7	197.0	198.7	204.0	210.2	219.5	227.7	236.5
62.5°	191.4	185.0	180.0	178.0	177.4	181.8	186.7	193.2	202.6	211.9	221.6
65°	169.2	163.9	159.8	158.6	159.5	162.5	168.9	177.4	185.3	194.9	204.9
67.5°	147.5	143.1	140.2	140.8	141.7	145.8	151.3	158.6	167.4	177.4	187.6
70°	127.0	122.9	120.6	120.9	122.6	127.9	132.6	139.9	149.6	159.8	168.0
72.5°	106.0	103.6	101.6	103.0	104.8	108.0	114.2	121.5	129.7	139.0	147.8
75°	84.6	84.6	83.4	84.3	86.9	90.4	94.8	102.4	110.9	118.5	125.6
77.5°	66.4	65.6	66.2	67.0	68.8	73.2	78.2	83.7	90.4	98.3	104.2
80°	48.0	48.3	49.8	51.5	52.1	55.3	60.6	65.6	70.5	77.0	82.5
82.5°	33.1	33.4	34.0	36.3	36.9	40.4	43.3	48.3	52.7	56.5	60.9
85°	19.6	19.6	21.1	22.0	23.4	25.8	27.8	30.7	34.8	37.8	42.1
87.5°	9.4	9.4	10.5	11.1	12.0	13.5	14.0	17.3	18.4	19.9	22.5
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: S124DR-S575D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	706.6	706.6	706.6	706.6
2.5°	665.0	664.4	662.4	662.1
5°	622.0	620.5	619.7	622.9
7.5°	589.5	588.3	585.7	584.8
10°	558.5	557.3	555.0	554.4
12.5°	528.6	526.0	526.0	526.9
15°	502.9	501.7	498.5	499.4
17.5°	476.5	475.4	471.0	475.4
20°	451.9	449.6	447.5	447.3
22.5°	428.5	426.5	426.8	424.4
25°	409.8	407.7	407.2	405.7
27.5°	394.6	393.4	392.2	392.8
30°	380.8	380.5	379.9	379.9
32.5°	369.4	369.4	370.0	370.0
35°	358.9	359.7	360.3	359.4
37.5°	349.5	350.1	351.0	351.8
40°	338.4	340.4	341.0	342.5
42.5°	327.8	330.2	331.9	331.9
45°	317.0	319.3	321.4	321.4
47.5°	305.9	309.1	311.1	311.4
50°	294.5	298.6	300.6	302.1
52.5°	283.3	287.4	290.4	290.9
55°	270.2	276.0	279.2	280.4
57.5°	258.5	263.7	267.2	268.1
60°	244.4	250.3	254.9	255.8
62.5°	230.1	236.2	240.3	242.9
65°	213.1	219.2	223.3	224.2
67.5°	195.2	201.7	204.3	206.1
70°	176.2	181.2	184.1	185.6
72.5°	154.5	159.8	163.3	163.3
75°	132.3	137.0	138.7	138.7
77.5°	109.2	111.8	114.2	114.7
80°	86.9	88.4	90.2	90.2
82.5°	64.1	65.3	67.0	66.7
85°	41.6	44.2	43.9	43.3
87.5°	23.4	23.7	24.6	25.2
90°	0.0	0.0	0.0	0.0

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