

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P646631

Luminaire Tested: S123DR-S340D830-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646631
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1)
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DR-S340D830-X4F0-XX-UDD-G-W
Description: DEFINE 3 DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC
STANDARD LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1424.9 lumens
Efficiency: N/A
Efficacy: 119.7 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

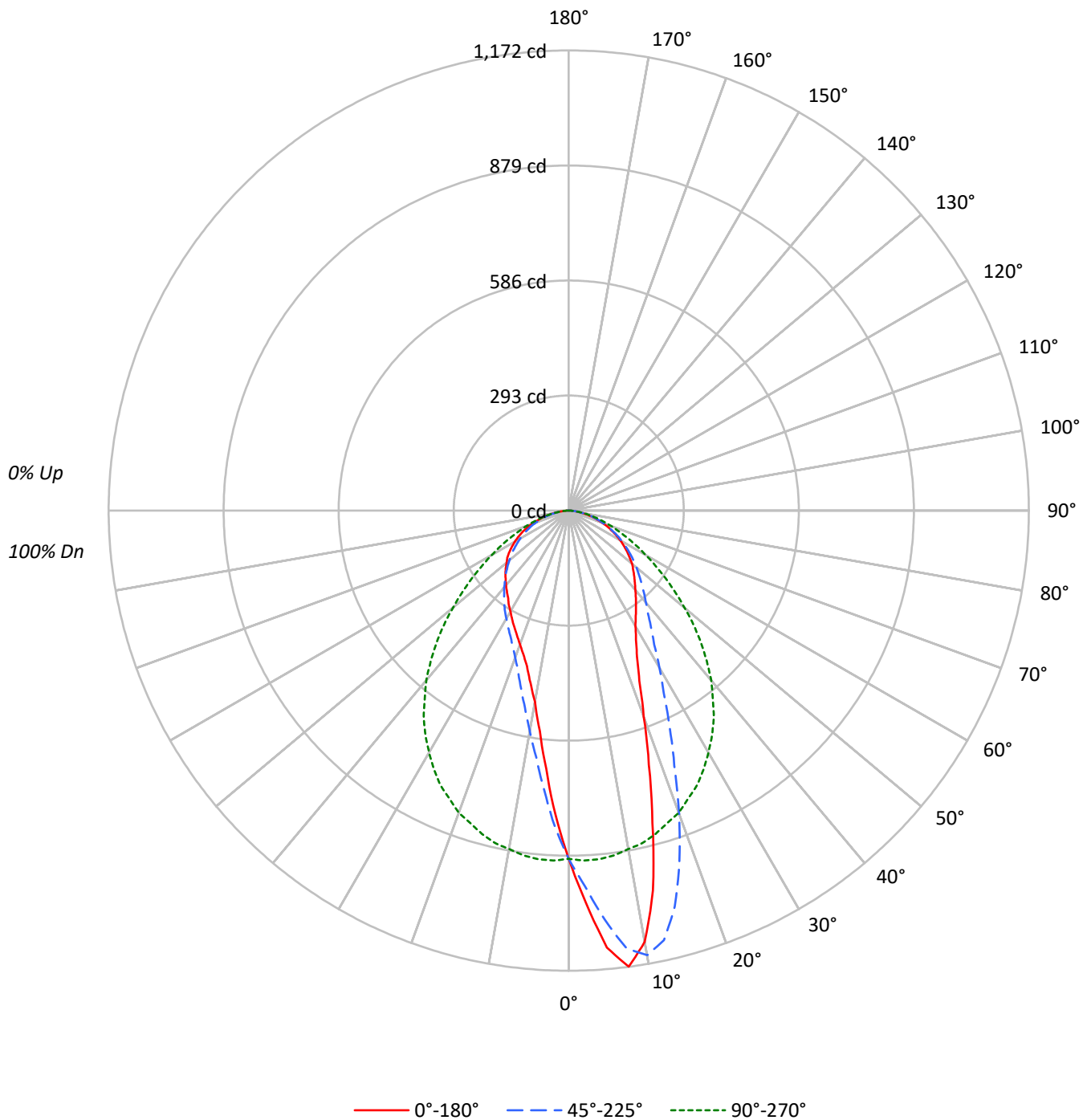
Input Watts (W): 11.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P646631

CATALOG NUMBER: S123DR-S340D830-X4F0-XX-UDD-G-W

Luminous Intensity Polar Plot



CATALOG NUMBER: S123DR-S340D830-X4F0-XX-UDD-G-W

RF	20				20				20				20				20			
RC	80				70				50				30				10			
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	94	88	82	99	92	86	82	88	84	80	85	81	78	82	79	76	74		
3	93	84	76	70	91	82	75	70	79	73	69	77	72	67	74	70	66	64		
4	86	75	67	61	84	74	67	61	72	65	60	69	64	59	67	62	58	56		
5	80	68	60	54	78	67	59	54	65	58	53	63	57	52	61	56	52	50		
6	74	62	54	48	73	61	53	48	60	53	47	58	52	47	56	51	47	45		
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40		
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37		
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	40	35	34		
10	58	45	38	33	57	45	38	33	44	37	33	43	37	33	42	37	33	31		

	0°	45°	90°	135°	180°
0°	10686	10686	10686	10686	10686
5°	13514	12638	10782	8646	7984
10°	13646	14068	10709	6984	6053
15°	10278	13019	10637	5853	5118
20°	7161	10527	10502	5103	4649
25°	5460	8075	10270	4678	4361
30°	4724	6418	9899	4420	4128
35°	4383	5375	9474	4213	3966
40°	4149	4810	8874	4020	3910
45°	4011	4466	8113	3849	3885
50°	3942	4220	7213	3702	3865
55°	3796	3985	6327	3571	3882
60°	3661	3769	5453	3441	3817
65°	3438	3532	4704	3296	3743
70°	3174	3276	4002	3118	3523
75°	2872	2970	3431	2854	3217
80°	2373	2540	2713	2484	2713
85°	1880	2046	1991	2157	2157

Horizontal Angle: 80°
Vertical Angle: 45°
Luminance: 9263 cd/sqm



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CATALOG NUMBER: S123DR-S340D830-X4F0-XX-UDD-G-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.8	5.9
10°-20°	208.6	14.6
20°-30°	246.9	17.3
30°-40°	248.2	17.4
40°-50°	227.6	16.0
50°-60°	187.8	13.2
60°-70°	132.9	9.3
70°-80°	71.0	5.0
80°-90°	18.0	1.3
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°	539.4	37.9
0°-40°	787.6	55.3
0°-60°	1203.0	84.4
0°-90°	1424.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1424.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	887	887	887	887	887	
5°	1117	1045	891	715	660	106
15°	824	1044	853	469	410	228
25°	411	607	772	352	328	194
35°	298	365	644	286	270	187
45°	235	262	476	226	228	182
55°	181	190	301	170	185	162
65°	121	124	165	116	131	120
75°	62	64	74	61	69	65
85°	14	15	14	16	16	16
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	886.9	886.9	886.9	886.9	886.9	886.9	886.9	886.9	886.9	886.9	886.9
2.5°	999.6	997.6	987.3	980.7	982.3	967.5	958.5	951.1	946.1	934.2	928.0
5°	1117.3	1123.1	1116.5	1113.2	1096.3	1069.6	1044.9	1039.5	1016.5	988.1	978.2
7.5°	1171.6	1174.9	1170.8	1170.8	1165.5	1141.6	1124.3	1110.7	1071.2	1034.6	1017.7
10°	1115.3	1122.7	1138.7	1146.1	1156.8	1153.5	1149.8	1144.5	1117.7	1075.3	1056.0
12.5°	991.4	1000.4	1032.5	1037.1	1073.7	1109.1	1120.6	1133.8	1136.3	1100.4	1079.5
15°	823.9	849.0	878.2	892.2	938.7	1013.2	1043.7	1079.5	1121.8	1107.0	1090.6
17.5°	678.6	688.1	719.4	749.0	795.5	881.5	937.9	991.4	1082.3	1097.2	1086.9
20°	558.5	567.1	608.3	606.2	667.9	764.6	821.0	882.7	1016.9	1065.1	1063.0
22.5°	469.2	482.7	505.8	518.5	563.0	649.0	702.5	779.5	942.4	1018.6	1026.8
25°	410.7	420.6	434.6	445.7	480.3	551.0	607.4	670.8	848.6	957.6	978.2
27.5°	370.8	374.9	388.9	395.5	418.5	479.4	523.1	581.1	761.8	889.3	918.1
30°	339.5	342.4	354.7	356.8	374.9	418.9	461.3	508.7	677.0	819.0	851.9
32.5°	317.7	319.8	329.2	330.1	343.6	375.7	405.4	449.8	596.7	743.6	784.4
35°	298.0	299.2	306.2	308.2	316.9	341.2	365.4	399.6	532.9	675.7	720.6
37.5°	280.7	282.3	286.4	288.9	295.9	315.2	331.7	360.1	471.6	605.0	654.8
40°	263.8	266.7	269.6	269.6	277.4	292.2	305.8	329.2	418.9	543.2	587.3
42.5°	249.4	252.3	253.5	253.9	258.0	271.6	283.1	299.2	379.0	488.5	531.7
45°	235.4	236.6	237.9	238.7	241.6	253.5	262.1	277.4	341.2	437.9	479.9
47.5°	222.6	222.6	223.5	224.7	226.8	235.4	242.8	253.9	308.7	392.6	427.2
50°	210.3	210.3	209.1	209.9	211.1	217.7	225.1	234.2	278.2	351.0	381.9
52.5°	195.5	195.5	195.9	194.7	195.9	201.7	207.4	216.5	252.3	312.8	339.1
55°	180.7	182.3	181.1	180.3	181.9	185.6	189.7	197.5	228.0	282.3	303.3
57.5°	165.8	166.7	166.3	167.5	166.7	170.0	173.7	179.0	206.2	248.2	267.9
60°	151.9	151.9	151.0	151.9	151.9	153.5	156.4	161.7	184.0	218.9	235.4
62.5°	136.2	136.6	137.0	136.6	136.2	138.3	140.7	144.4	164.6	190.5	202.9
65°	120.6	121.0	122.2	121.8	121.4	123.5	123.9	128.0	143.2	165.4	174.5
67.5°	106.6	105.8	106.2	107.0	107.4	107.8	108.6	112.8	123.5	141.6	149.0
70°	90.1	90.9	90.5	91.8	90.9	92.2	93.0	95.9	106.2	118.1	123.0
72.5°	75.3	75.7	75.7	77.0	76.5	77.8	78.6	79.8	87.2	97.9	100.0
75°	61.7	61.7	62.6	63.0	63.0	63.0	63.8	64.6	70.8	77.4	79.4
77.5°	46.9	49.0	48.6	49.0	49.4	50.6	49.8	51.4	55.1	58.8	60.1
80°	34.2	34.2	34.6	35.0	35.8	36.6	36.6	38.3	39.9	42.0	43.2
82.5°	21.8	22.2	23.5	23.9	24.3	25.5	25.5	25.5	27.6	28.4	28.4
85°	13.6	12.8	13.6	14.0	14.4	14.8	14.8	15.6	16.0	16.5	16.5
87.5°	6.6	6.6	6.6	6.6	7.0	7.0	7.0	7.0	7.4	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

TEST NUMBER: P646631

CATALOG NUMBER: S123DR-S340D830-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	886.9	886.9	886.9	886.9	886.9	886.9	886.9	886.9	886.9	886.9	886.9
2.5°	907.4	892.2	869.6	851.1	851.9	835.0	822.7	806.6	801.7	796.7	790.2
5°	926.4	891.4	844.5	807.0	795.5	767.5	732.1	714.8	704.6	686.4	679.4
7.5°	949.8	885.6	814.0	755.6	742.8	696.3	654.3	633.8	614.4	601.7	586.0
10°	965.1	875.3	783.2	705.8	693.4	640.4	585.6	570.8	546.5	530.9	516.1
12.5°	976.6	867.5	751.5	661.3	641.2	589.7	534.6	514.4	496.7	474.1	463.4
15°	986.9	852.7	719.0	614.8	593.8	538.3	487.3	469.2	453.1	433.3	423.9
17.5°	983.2	834.6	683.2	573.7	552.7	498.0	449.0	428.4	417.7	400.4	393.8
20°	978.6	819.0	649.4	534.6	511.5	460.5	412.8	398.0	387.3	376.1	370.4
22.5°	964.2	794.3	615.2	498.8	477.0	425.9	385.2	372.9	364.6	356.8	351.9
25°	939.9	772.5	581.9	463.0	445.7	398.0	363.4	351.9	346.5	338.7	334.2
27.5°	909.9	743.6	548.6	433.8	414.0	371.6	342.0	334.6	328.8	322.6	318.1
30°	872.0	711.5	516.1	405.4	387.3	349.8	324.3	317.7	312.4	306.2	300.8
32.5°	823.9	679.0	485.6	379.0	363.8	331.3	307.8	302.5	298.0	290.5	287.7
35°	770.0	644.1	455.6	353.9	339.5	311.1	291.8	286.4	281.9	275.7	273.3
37.5°	715.3	602.5	425.9	332.5	319.8	294.2	275.7	270.4	266.3	260.9	259.7
40°	657.2	564.2	396.7	310.7	299.6	277.8	259.7	255.6	251.4	248.2	247.3
42.5°	598.8	520.2	371.2	292.6	280.7	260.5	244.0	239.5	237.0	235.4	235.8
45°	543.6	476.1	344.9	271.6	263.4	244.9	229.6	225.9	223.9	222.6	224.3
47.5°	484.0	431.3	320.2	253.9	245.7	229.2	214.8	211.5	210.7	210.3	213.2
50°	431.3	384.8	293.4	235.8	228.8	211.9	200.4	197.5	196.7	197.9	202.1
52.5°	381.5	341.6	269.1	218.9	211.9	196.7	186.0	184.0	183.5	186.4	190.5
55°	332.1	301.2	242.8	200.4	193.4	180.3	172.0	170.0	169.6	175.3	179.0
57.5°	290.1	262.1	218.1	182.7	177.4	165.0	157.6	156.0	157.2	162.6	166.3
60°	249.0	226.3	195.5	163.8	159.7	149.0	143.2	142.8	144.0	150.2	153.9
62.5°	211.9	194.7	171.2	146.5	143.6	134.2	128.8	129.6	130.9	137.0	140.3
65°	180.3	165.0	147.3	129.2	125.5	118.9	115.2	115.6	118.1	123.5	126.8
67.5°	149.4	137.0	127.2	112.8	109.9	104.1	101.2	102.9	104.1	109.5	112.8
70°	123.5	113.6	106.2	95.5	93.4	88.5	86.4	88.5	89.7	94.2	98.4
72.5°	99.2	93.0	87.2	79.4	77.4	74.1	73.7	74.5	76.5	81.1	82.7
75°	77.0	73.7	68.7	63.8	62.6	60.9	60.5	61.3	63.4	65.8	67.5
77.5°	58.4	55.6	51.9	49.8	48.1	47.3	47.7	49.0	49.8	52.3	53.5
80°	42.4	39.1	38.3	35.4	35.0	34.6	35.4	35.8	37.0	38.7	39.5
82.5°	28.0	25.5	24.7	24.3	23.9	23.5	24.7	25.1	25.9	27.2	27.6
85°	15.2	14.4	14.4	14.0	14.4	15.2	15.2	15.6	15.6	16.0	15.6
87.5°	7.0	6.2	6.6	6.6	6.6	7.0	7.0	7.4	7.4	7.4	7.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P646631

CATALOG NUMBER: S123DR-S340D830-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	886.9	886.9	886.9
2.5°	789.7	786.9	775.3
5°	673.3	663.4	660.1
7.5°	584.4	583.6	566.3
10°	509.1	510.3	494.7
12.5°	461.7	451.5	450.2
15°	421.4	411.9	410.3
17.5°	391.4	385.6	384.0
20°	368.7	365.4	362.6
22.5°	350.6	346.5	344.0
25°	332.5	328.8	328.0
27.5°	316.9	312.4	312.4
30°	300.8	298.0	296.7
32.5°	286.4	284.0	284.0
35°	272.4	271.2	269.6
37.5°	259.7	259.7	258.9
40°	247.3	248.6	248.6
42.5°	236.6	237.9	237.9
45°	225.1	227.2	228.0
47.5°	213.6	216.9	217.7
50°	203.3	205.8	206.2
52.5°	192.2	195.1	197.1
55°	180.7	183.5	184.8
57.5°	168.3	171.2	171.6
60°	154.7	157.6	158.4
62.5°	142.4	144.0	144.9
65°	127.2	129.6	131.3
67.5°	113.2	115.2	115.2
70°	97.9	98.8	100.0
72.5°	83.5	84.0	84.0
75°	67.9	68.7	69.1
77.5°	53.5	53.9	53.9
80°	39.5	39.1	39.1
82.5°	27.6	26.3	26.3
85°	15.6	15.2	15.6
87.5°	7.0	7.0	7.0
90°	0.0	0.0	0.0

(END OF REPORT)