

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055631

Luminaire Tested: S123R3DR-S560D830-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055631  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-S560D830-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

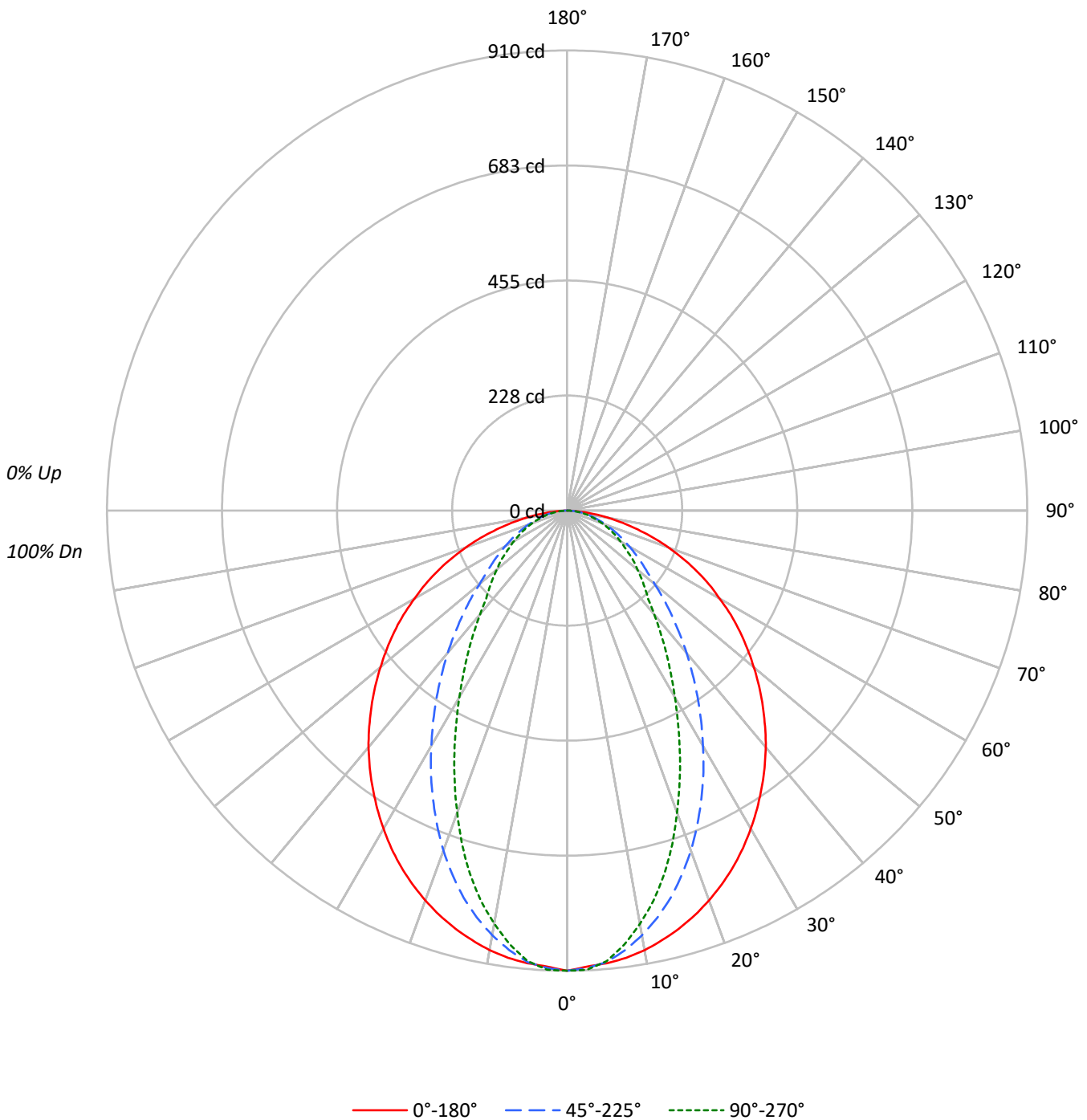
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1596.0 lumens  
Efficiency: N/A  
Efficacy: 83.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 19.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: P1055631

CATALOG NUMBER: S123R3DR-S560D830-X4F0-XX-UDD-F-W

### Luminous Intensity Polar Plot





TEST NUMBER: P1055631

CATALOG NUMBER: S123R3DR-S560D830-X4F0-XX-UDD-F-W

**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	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	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	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

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

	0°	45°	90°
0°	10971	10971	10971
5°	10874	10849	10824
10°	10808	10442	10158
15°	10679	9889	9278
20°	10523	9179	8156
25°	10340	8357	7017
30°	10111	7476	5932
35°	9867	6611	5009
40°	9619	5774	4210
45°	9330	4979	3714
50°	9039	4239	3408
55°	8769	3777	3147
60°	8403	3414	2937
65°	8059	3127	2759
70°	7508	2880	2591
75°	6722	2665	2441
80°	5763	2458	2270
85°	4053	2255	2172

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9330 cd/sqm



TEST NUMBER: P1055631

CATALOG NUMBER: S123R3DR-S560D830-X4F0-XX-UDD-F-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.4	5.3
10°-20°	223.2	14.0
20°-30°	294.0	18.4
30°-40°	298.4	18.7
40°-50°	259.4	16.3
50°-60°	203.2	12.7
60°-70°	138.1	8.7
70°-80°	74.8	4.7
80°-90°	20.6	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°	601.5	37.7
0°-40°	900.0	56.4
0°-60°	1362.5	85.4
0°-90°	1596.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1596.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	898	909	896	888	894	85
15°	856	843	792	754	743	241
25°	777	730	628	550	528	358
35°	670	591	449	364	340	419
45°	547	439	292	225	218	422
55°	417	290	180	153	150	372
65°	282	156	110	98	97	279
75°	144	72	57	53	52	154
85°	29	18	16	15	16	37
90°	0	0	0	0	0	



TEST NUMBER: P1055631

CATALOG NUMBER: S123R3DR-S560D830-X4F0-XX-UDD-F-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	910.0	910.0	910.0	910.0	910.0
2.5°	902.5	914.1	905.3	905.9	908.7
5°	898.5	909.3	896.4	888.2	894.4
7.5°	892.3	900.5	876.7	863.7	865.8
10°	882.8	885.5	852.9	832.4	829.7
12.5°	869.9	865.1	824.3	794.3	789.6
15°	855.6	843.3	792.3	753.5	743.3
17.5°	839.2	818.8	754.8	707.2	691.5
20°	820.2	791.6	715.4	654.8	635.7
22.5°	799.8	763.0	672.5	601.0	581.3
25°	777.3	730.3	628.2	550.0	527.5
27.5°	752.8	697.7	583.3	499.6	474.4
30°	726.3	663.6	537.0	450.6	426.1
32.5°	699.0	627.6	492.8	405.0	381.2
35°	670.4	590.8	449.2	363.5	340.3
37.5°	641.2	553.4	407.0	324.0	302.2
40°	611.2	515.3	366.9	287.2	267.5
42.5°	579.2	477.1	328.1	252.5	237.5
45°	547.2	439.0	292.0	225.3	217.8
47.5°	515.3	400.2	258.0	206.2	199.4
50°	481.9	362.8	226.0	188.5	181.7
52.5°	449.2	326.0	199.4	171.5	166.8
55°	417.2	290.0	179.7	153.1	149.7
57.5°	383.9	254.6	160.0	138.9	134.8
60°	348.5	220.5	141.6	123.9	121.8
62.5°	316.5	188.5	125.2	110.9	108.9
65°	282.5	156.5	109.6	98.0	96.7
67.5°	247.8	130.0	95.3	85.8	85.1
70°	213.0	109.6	81.7	74.2	73.5
72.5°	179.0	90.5	68.7	64.0	62.6
75°	144.3	72.1	57.2	53.1	52.4
77.5°	113.0	55.8	45.6	42.9	42.2
80°	83.0	41.5	35.4	33.4	32.7
82.5°	54.5	28.6	25.2	23.8	23.8
85°	29.3	17.7	16.3	15.0	15.7
87.5°	10.2	7.5	7.5	6.8	7.5
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055631  
 CATALOG NUMBER: S123R3DR-S560D830-X4F0-XX-UDD-F-W

**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	18.88	20.37	19.25	20.69	21.00	14.03	15.52	14.40	15.84	16.15
	3H	20.77	22.11	21.15	22.43	22.80	15.66	17.00	16.04	17.33	17.69
	4H	21.52	22.78	21.92	23.13	23.51	16.30	17.55	16.70	17.90	18.28
	6H	22.09	23.25	22.50	23.61	24.01	16.79	17.95	17.20	18.31	18.70
	8H	22.26	23.37	22.69	23.75	24.16	16.96	18.06	17.38	18.45	18.85
	12H	22.36	23.41	22.79	23.80	24.23	17.08	18.14	17.51	18.52	18.95
4H	2H	18.93	20.18	19.33	20.53	20.91	14.76	16.02	15.16	16.36	16.74
	3H	20.94	21.99	21.35	22.39	22.79	16.58	17.62	16.99	18.02	18.43
	4H	21.76	22.70	22.19	23.12	23.56	17.33	18.27	17.76	18.68	19.12
	6H	22.44	23.26	22.90	23.70	24.16	17.94	18.75	18.39	19.20	19.66
	8H	22.67	23.44	23.14	23.88	24.35	18.15	18.91	18.61	19.36	19.83
	12H	22.83	23.51	23.31	23.99	24.46	18.32	19.00	18.80	19.48	19.95
8H	4H	21.79	22.55	22.25	22.99	23.46	17.71	18.47	18.17	18.92	19.38
	6H	22.51	23.14	23.01	23.64	24.11	18.44	19.07	18.94	19.56	20.04
	8H	22.78	23.35	23.30	23.86	24.35	18.73	19.29	19.24	19.80	20.29
	12H	22.99	23.49	23.50	23.98	24.55	18.97	19.47	19.48	19.96	20.53
12H	4H	21.77	22.45	22.25	22.93	23.40	17.76	18.45	18.25	18.92	19.40
	6H	22.50	23.06	23.01	23.57	24.06	18.52	19.09	19.04	19.60	20.09
	8H	22.80	23.30	23.31	23.80	24.36	18.87	19.37	19.38	19.86	20.43