

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



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: P1055766

Luminaire Tested: S123R3DR-H560D830-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055766  
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-H560D830-X4F0-XX-UDD-FLL-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

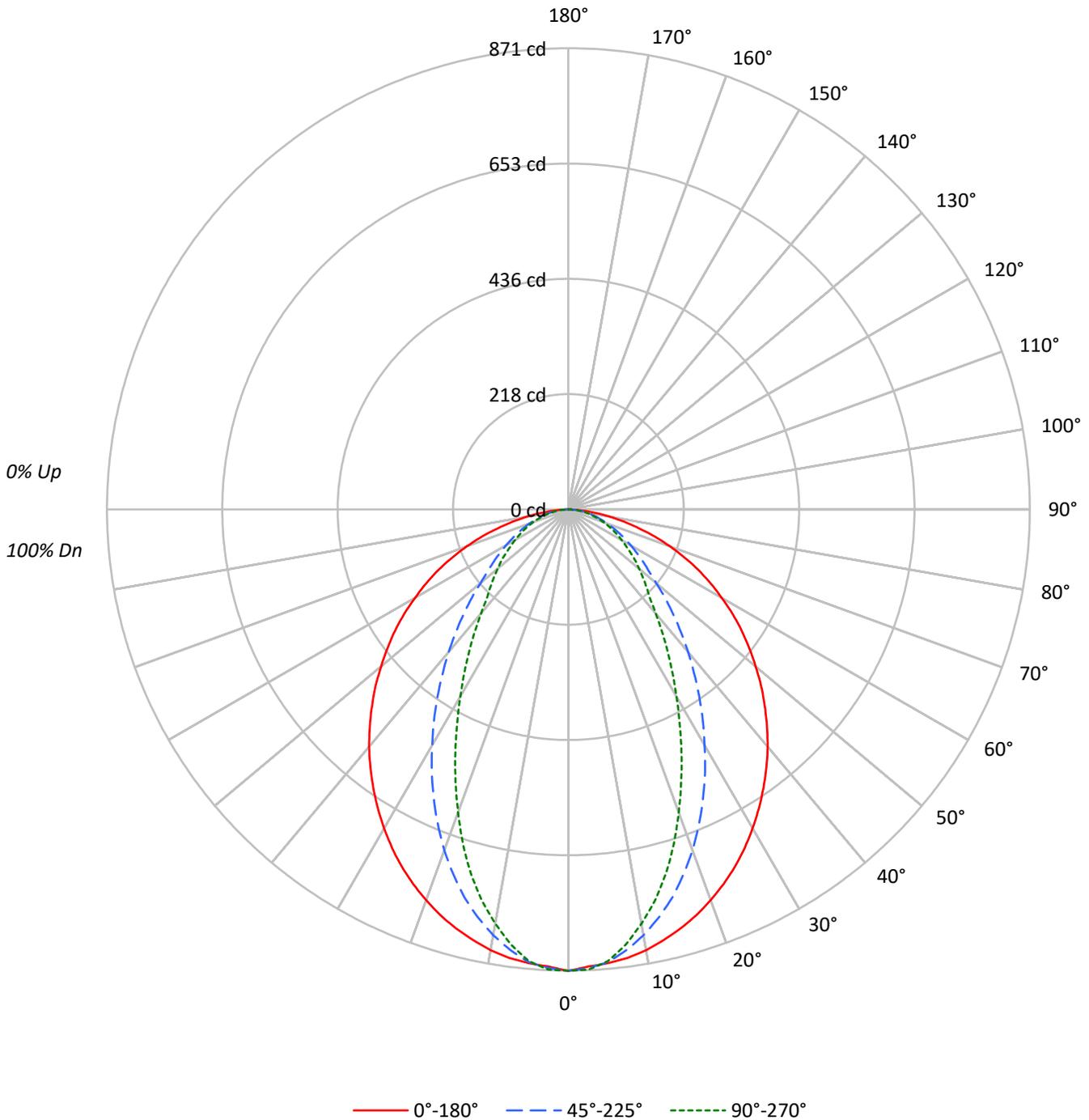
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1528.2 lumens  
Efficiency: N/A  
Efficacy: 88.3 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): 17.3  
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: P1055766

CATALOG NUMBER: S123R3DR-H560D830-X4F0-XX-UDD-FLL-W

### Luminous Intensity Polar Plot





TEST NUMBER: P1055766

CATALOG NUMBER: S123R3DR-H560D830-X4F0-XX-UDD-FLL-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°	10506	10506	10506
5°	10412	10388	10365
10°	10348	9997	9725
15°	10225	9469	8883
20°	10076	8789	7810
25°	9901	8002	6719
30°	9681	7158	5680
35°	9448	6330	4797
40°	9210	5529	4031
45°	8934	4767	3557
50°	8654	4059	3264
55°	8397	3617	3014
60°	8046	3270	2814
65°	7717	2993	2639
70°	7191	2757	2482
75°	6438	2548	2338
80°	5520	2354	2173
85°	3873	2158	2075

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8934 cd/sqm



TEST NUMBER: P1055766

CATALOG NUMBER: S123R3DR-H560D830-X4F0-XX-UDD-FLL-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.8	5.3
10°-20°	213.7	14.0
20°-30°	281.5	18.4
30°-40°	285.7	18.7
40°-50°	248.4	16.3
50°-60°	194.6	12.7
60°-70°	132.2	8.7
70°-80°	71.6	4.7
80°-90°	19.7	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°	576.0	37.7
0°-40°	861.7	56.4
0°-60°	1304.7	85.4
0°-90°	1528.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1528.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	871	871	871	871	871	
5°	860	871	858	850	856	82
15°	819	808	759	722	712	231
25°	744	699	602	527	505	343
35°	642	566	430	348	326	402
45°	524	420	280	216	209	404
55°	400	278	172	147	143	357
65°	270	150	105	94	92	267
75°	138	69	55	51	50	148
85°	28	17	16	14	15	35
90°	0	0	0	0	0	



TEST NUMBER: P1055766

CATALOG NUMBER: S123R3DR-H560D830-X4F0-XX-UDD-FLL-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	871.4	871.4	871.4	871.4	871.4
2.5°	864.2	875.3	866.8	867.4	870.0
5°	860.3	870.7	858.3	850.5	856.4
7.5°	854.4	862.2	839.4	827.0	829.0
10°	845.3	847.9	816.6	797.1	794.4
12.5°	832.9	828.3	789.2	760.6	756.0
15°	819.2	807.5	758.6	721.5	711.7
17.5°	803.6	784.0	722.8	677.1	662.1
20°	785.3	758.0	685.0	627.0	608.7
22.5°	765.8	730.6	643.9	575.5	556.6
25°	744.3	699.3	601.5	526.6	505.1
27.5°	720.8	668.0	558.5	478.4	454.2
30°	695.4	635.4	514.2	431.4	408.0
32.5°	669.3	600.9	471.8	387.8	365.0
35°	641.9	565.7	430.1	348.0	325.9
37.5°	613.9	529.8	389.7	310.2	289.4
40°	585.2	493.4	351.3	275.0	256.1
42.5°	554.6	456.9	314.1	241.8	227.5
45°	524.0	420.4	279.6	215.7	208.6
47.5°	493.4	383.2	247.0	197.5	191.0
50°	461.4	347.4	216.4	180.5	174.0
52.5°	430.1	312.2	191.0	164.2	159.7
55°	399.5	277.6	172.1	146.6	143.4
57.5°	367.6	243.7	153.2	133.0	129.0
60°	333.7	211.2	135.6	118.6	116.7
62.5°	303.1	180.5	119.9	106.2	104.3
65°	270.5	149.9	104.9	93.8	92.5
67.5°	237.2	124.5	91.2	82.1	81.5
70°	204.0	104.9	78.2	71.0	70.4
72.5°	171.4	86.7	65.8	61.3	60.0
75°	138.2	69.1	54.7	50.8	50.2
77.5°	108.2	53.4	43.7	41.1	40.4
80°	79.5	39.8	33.9	31.9	31.3
82.5°	52.1	27.4	24.1	22.8	22.8
85°	28.0	16.9	15.6	14.3	15.0
87.5°	9.8	7.2	7.2	6.5	7.2
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055766  
 CATALOG NUMBER: S123R3DR-H560D830-X4F0-XX-UDD-FLL-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	18.73	20.22	19.09	20.53	20.85	13.88	15.37	14.25	15.69	16.00
	3H	20.62	21.95	20.99	22.28	22.64	15.51	16.85	15.88	17.17	17.54
	4H	21.37	22.63	21.77	22.98	23.36	16.14	17.40	16.54	17.75	18.13
	6H	21.94	23.10	22.35	23.46	23.86	16.63	17.79	17.05	18.16	18.55
	8H	22.11	23.21	22.54	23.60	24.01	16.80	17.91	17.23	18.30	18.70
	12H	22.21	23.26	22.64	23.65	24.07	16.93	17.99	17.36	18.37	18.80
4H	2H	18.77	20.03	19.17	20.38	20.76	14.61	15.86	15.01	16.21	16.59
	3H	20.79	21.84	21.20	22.24	22.64	16.43	17.47	16.84	17.87	18.27
	4H	21.61	22.55	22.04	22.97	23.40	17.17	18.11	17.61	18.53	18.97
	6H	22.29	23.11	22.75	23.55	24.01	17.78	18.60	18.24	19.04	19.50
	8H	22.52	23.29	22.99	23.73	24.20	18.00	18.76	18.46	19.21	19.67
	12H	22.67	23.36	23.16	23.84	24.31	18.17	18.85	18.65	19.33	19.80
8H	4H	21.63	22.40	22.10	22.84	23.31	17.56	18.32	18.02	18.77	19.23
	6H	22.36	22.99	22.86	23.49	23.96	18.29	18.92	18.78	19.41	19.89
	8H	22.63	23.20	23.15	23.71	24.20	18.57	19.14	19.09	19.65	20.14
	12H	22.84	23.34	23.35	23.83	24.40	18.82	19.32	19.33	19.81	20.38
12H	4H	21.62	22.30	22.10	22.78	23.25	17.61	18.29	18.09	18.77	19.24
	6H	22.35	22.91	22.86	23.42	23.91	18.37	18.93	18.88	19.44	19.93
	8H	22.65	23.15	23.16	23.65	24.21	18.72	19.21	19.23	19.71	20.27