

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: P1059670

Luminaire Tested: S123RDR-H560D840-X4F0-XX-UDD-BVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059670  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-30)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H560D840-X4F0-XX-UDD-BVL-B  
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

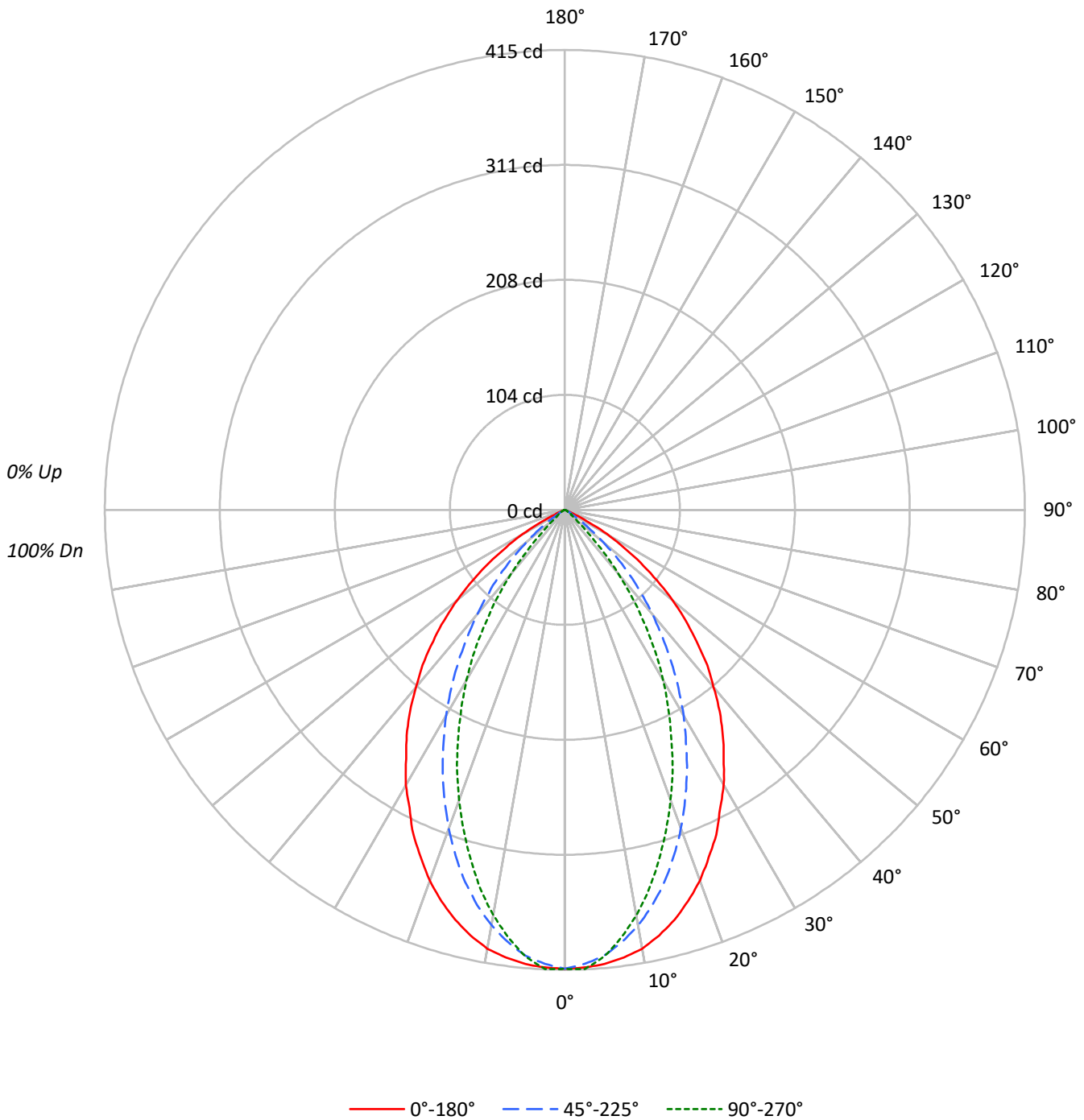
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 472.6 lumens  
Efficiency: N/A  
Efficacy: 27.2 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 0.81 / 0.94  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.4  
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: P1059670

CATALOG NUMBER: S123RDR-H560D840-X4F0-XX-UDD-BVL-B

### Luminous Intensity Polar Plot





TEST NUMBER: P1059670

CATALOG NUMBER: S123RDR-H560D840-X4F0-XX-UDD-BVL-B

**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	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	83	80	78	76
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63
6	83	73	66	61	81	72	66	61	70	65	60	69	64	60	67	63	60	58
7	78	68	61	56	77	67	60	56	66	60	56	64	59	55	63	58	55	53
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49
9	70	59	52	48	68	58	52	48	57	52	47	56	51	47	55	51	47	46
10	66	55	49	44	65	55	48	44	54	48	44	53	48	44	52	47	44	42

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

	0°	45°	90°
0°	4863	4863	4863
5°	4849	4763	4771
10°	4794	4540	4428
15°	4654	4223	3980
20°	4450	3825	3483
25°	4190	3378	2946
30°	3887	2903	2405
35°	3565	2400	1788
40°	3199	1881	1145
45°	2790	1373	477
50°	2315	817	183
55°	1707	342	137
60°	1033	124	78
65°	278	75	36
70°	0	24	24
75°	0	0	32
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2790 cd/sqm



TEST NUMBER: P1059670

CATALOG NUMBER: S123RDR-H560D840-X4F0-XX-UDD-BVL-B

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.1	8.1
10°-20°	98.4	20.8
20°-30°	122.6	25.9
30°-40°	109.6	23.2
40°-50°	69.2	14.6
50°-60°	29.0	6.1
60°-70°	5.4	1.2
70°-80°	0.2	0.0
80°-90°	0.0	0.0
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°	259.1	54.8
0°-40°	368.8	78.0
0°-60°	466.9	98.8
0°-90°	472.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	472.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	414	414	414	414	414	
5°	411	411	404	405	405	39
15°	383	373	347	333	327	107
25°	323	297	261	238	227	148
35°	249	213	167	137	125	155
45°	168	131	83	44	29	130
55°	83	57	17	7	7	75
65°	10	7	3	1	1	14
75°	0	0	0	0	1	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P1059670

CATALOG NUMBER: S123RDR-H560D840-X4F0-XX-UDD-BVL-B

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	414.1	414.1	414.1	414.1	414.1
2.5°	413.4	414.1	410.1	414.1	414.8
5°	411.4	410.8	404.1	405.4	404.8
7.5°	407.4	405.4	393.4	390.8	389.4
10°	402.1	396.8	380.8	374.1	371.4
12.5°	393.4	386.1	365.4	354.8	350.8
15°	382.8	373.4	347.4	332.8	327.4
17.5°	370.1	356.8	327.4	311.4	303.4
20°	356.1	337.4	306.1	286.7	278.7
22.5°	339.4	318.8	283.4	262.7	254.1
25°	323.4	297.4	260.7	238.1	227.4
27.5°	303.4	276.1	236.7	213.4	202.1
30°	286.7	255.4	214.1	188.1	177.4
32.5°	266.7	234.1	190.7	162.0	152.0
35°	248.7	212.7	167.4	137.4	124.7
37.5°	229.4	192.1	144.0	112.7	100.7
40°	208.7	171.4	122.7	88.0	74.7
42.5°	190.1	150.7	101.4	65.4	52.0
45°	168.0	130.7	82.7	44.0	28.7
47.5°	148.0	112.0	62.7	24.7	15.3
50°	126.7	92.7	44.7	12.7	10.0
52.5°	104.7	74.0	29.3	8.7	8.0
55°	83.4	57.3	16.7	6.7	6.7
57.5°	62.7	41.3	8.7	5.3	4.7
60°	44.0	27.3	5.3	4.0	3.3
62.5°	25.3	16.0	4.0	2.7	2.7
65°	10.0	7.3	2.7	1.3	1.3
67.5°	0.7	2.0	1.3	0.7	0.7
70°	0.0	0.0	0.7	0.7	0.7
72.5°	0.0	0.0	0.7	0.7	0.7
75°	0.0	0.0	0.0	0.0	0.7
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1059670  
 CATALOG NUMBER: S123RDR-H560D840-X4F0-XX-UDD-BVL-B

**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	10.68	11.86	11.04	12.17	12.48	0.00	0.00	0.00	0.00	0.00
	3H	10.52	11.55	10.90	11.88	12.25	0.00	0.00	0.00	0.00	0.00
	4H	10.43	11.39	10.84	11.74	12.13	0.00	0.00	0.00	0.00	0.00
	6H	10.34	11.21	10.76	11.59	11.98	0.00	0.00	0.00	0.00	0.00
	8H	10.29	11.11	10.72	11.51	11.91	0.00	0.00	0.00	0.00	0.00
	12H	10.24	11.03	10.68	11.41	11.84	0.00	0.00	0.00	0.00	0.00
4H	2H	10.44	11.39	10.84	11.75	12.13	0.00	0.00	0.00	0.00	0.00
	3H	10.27	11.04	10.69	11.45	11.85	0.00	0.00	0.00	0.00	0.00
	4H	10.17	10.85	10.61	11.27	11.72	0.00	0.00	0.00	0.00	0.00
	6H	10.07	10.66	10.54	11.11	11.58	0.00	0.00	0.00	0.00	0.00
	8H	10.01	10.55	10.48	11.00	11.48	0.00	0.00	0.00	0.00	0.00
	12H	9.95	10.43	10.44	10.91	11.39	0.00	0.00	0.00	0.00	0.00
8H	4H	10.01	10.55	10.48	11.00	11.48	0.00	0.00	0.00	0.00	0.00
	6H	9.89	10.33	10.40	10.83	11.32	0.00	0.00	0.00	0.00	0.00
	8H	9.82	10.22	10.35	10.74	11.23	0.00	0.00	0.00	0.00	0.00
	12H	9.77	10.12	10.28	10.61	11.19	0.00	0.00	0.00	0.00	0.00
12H	4H	9.95	10.43	10.44	10.91	11.39	0.00	0.00	0.00	0.00	0.00
	6H	9.82	10.22	10.35	10.74	11.23	0.00	0.00	0.00	0.00	0.00
	8H	9.77	10.12	10.28	10.61	11.19	0.00	0.00	0.00	0.00	0.00