

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: P1059672

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

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059672  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-66)  
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-W  
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

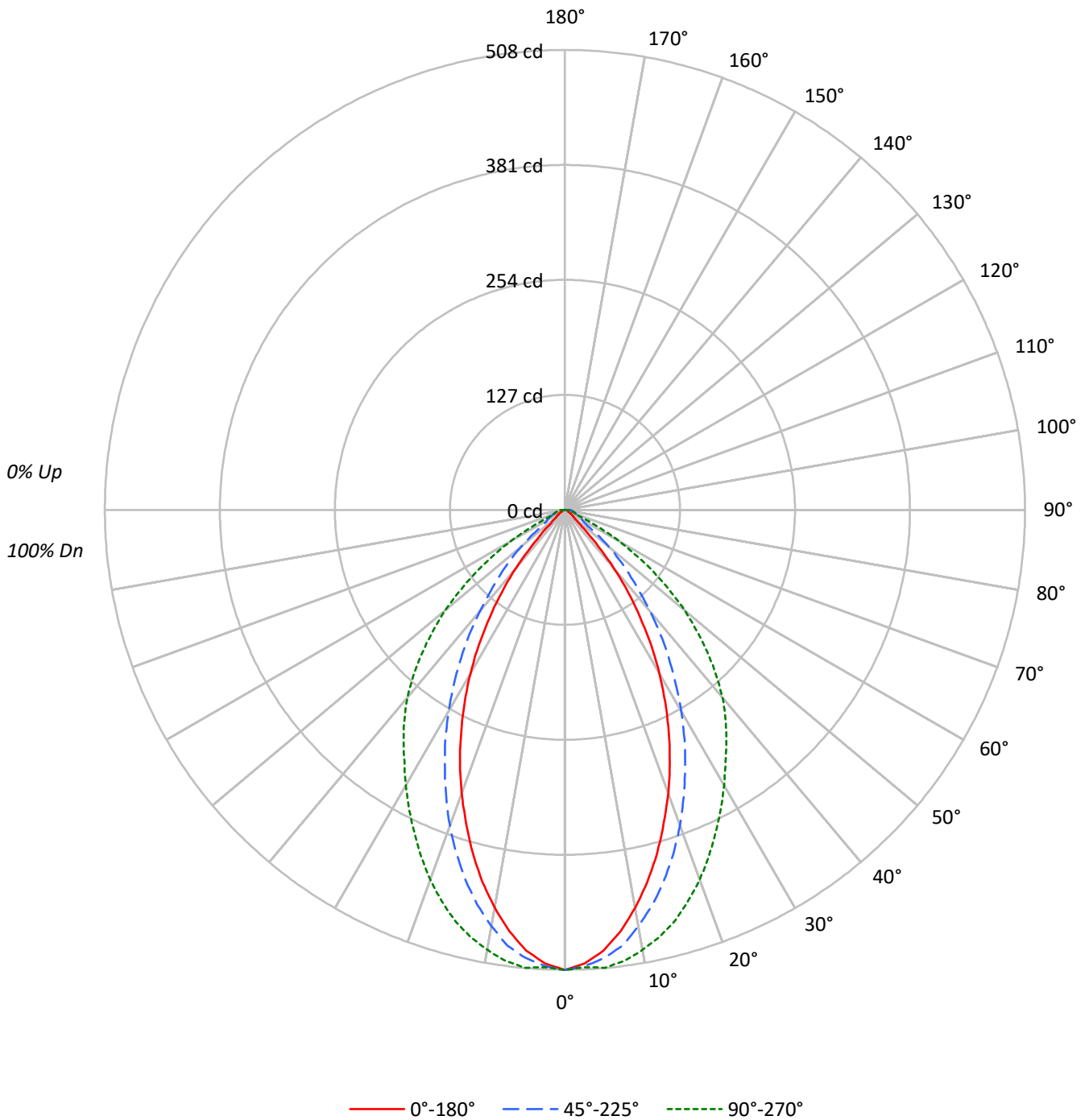
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 610.2 lumens  
Efficiency: N/A  
Efficacy: 35.1 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.06 / 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

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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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90
2	105	99	94	90	102	97	92	88	94	90	87	91	87	85	88	85	83	81
3	98	90	84	79	96	89	83	79	86	81	77	83	79	76	81	78	75	73
4	92	83	76	71	90	81	75	70	79	74	70	77	72	69	75	71	68	66
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55
7	76	65	58	53	75	65	58	53	63	57	53	62	56	52	61	56	52	50
8	72	61	54	49	70	60	53	49	59	53	49	58	52	48	57	52	48	47
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43
10	64	53	46	42	63	53	46	42	52	46	42	51	45	42	50	45	42	40

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

	0°	45°	90°
0°	5969	5969	5969
5°	5763	5857	5983
10°	5320	5567	5885
15°	4774	5148	5709
20°	4165	4641	5433
25°	3514	4067	5097
30°	2826	3478	4763
35°	2069	2863	4452
40°	1291	2232	4146
45°	488	1664	3693
50°	232	1147	3148
55°	178	628	2434
60°	124	533	1599
65°	92	464	667
70°	93	436	436
75°	122	454	454
80°	183	541	494
85°	364	903	714

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 3693 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.7	7.6
10°-20°	119.6	19.6
20°-30°	148.1	24.3
30°-40°	132.8	21.8
40°-50°	87.0	14.3
50°-60°	43.6	7.1
60°-70°	17.0	2.8
70°-80°	9.6	1.6
80°-90°	5.9	1.0
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°	314.4	51.5
0°-40°	447.2	73.3
0°-60°	577.8	94.7
0°-90°	610.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	610.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	508	508	508	508	508	
5°	489	497	497	502	508	45
15°	393	409	424	452	470	109
25°	271	288	314	359	393	124
35°	144	164	200	260	311	90
45°	29	47	100	172	222	28
55°	9	11	31	84	119	8
65°	3	10	17	22	24	3
75°	3	10	10	10	10	3
85°	3	7	7	7	5	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	508.3	508.3	508.3	508.3	508.3
2.5°	501.6	509.0	504.3	505.0	505.6
5°	488.9	496.9	496.9	502.3	507.6
7.5°	469.6	478.9	485.6	494.9	502.3
10°	446.2	457.5	466.9	483.6	493.6
12.5°	420.8	434.8	446.8	468.9	482.9
15°	392.7	408.8	423.5	451.5	469.6
17.5°	362.7	378.7	398.1	430.8	452.9
20°	333.3	349.3	371.4	408.1	434.8
22.5°	302.6	319.3	342.6	383.4	414.8
25°	271.2	287.9	313.9	358.7	393.4
27.5°	239.8	256.5	285.9	334.6	372.7
30°	208.4	225.1	256.5	308.6	351.3
32.5°	177.0	195.0	227.8	284.5	330.0
35°	144.3	163.6	199.7	259.8	310.6
37.5°	114.2	132.3	173.0	238.5	291.2
40°	84.2	103.5	145.6	217.7	270.5
42.5°	54.8	75.5	120.9	195.0	247.1
45°	29.4	47.4	100.2	171.7	222.4
47.5°	16.0	26.0	80.8	146.9	197.0
50°	12.7	14.7	62.8	125.6	172.3
52.5°	10.7	12.0	44.8	105.5	144.9
55°	8.7	10.7	30.7	84.2	118.9
57.5°	7.3	9.4	24.0	65.5	92.8
60°	5.3	8.0	22.7	48.1	68.1
62.5°	4.0	8.7	20.0	33.4	44.8
65°	3.3	10.0	16.7	22.0	24.0
67.5°	2.7	10.7	14.7	14.0	14.0
70°	2.7	10.0	12.7	12.0	12.7
72.5°	2.7	10.7	11.4	10.7	11.4
75°	2.7	10.0	10.0	10.0	10.0
77.5°	2.7	9.4	9.4	8.7	8.7
80°	2.7	8.0	8.0	8.0	7.3
82.5°	2.7	7.3	7.3	7.3	6.0
85°	2.7	6.7	6.7	6.7	5.3
87.5°	2.0	6.0	6.7	6.0	4.0
90°	0.0	0.0	0.0	0.0	0.0



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**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	0.00	0.00	0.00	0.15	0.47	12.81	14.07	13.18	14.38	14.70
	3H	0.91	2.02	1.29	2.35	2.72	12.89	14.00	13.27	14.34	14.70
	4H	2.02	3.05	2.42	3.40	3.79	12.97	14.00	13.37	14.36	14.74
	6H	3.01	3.96	3.43	4.34	4.73	13.07	14.02	13.49	14.39	14.79
	8H	3.50	4.40	3.93	4.79	5.19	13.13	14.03	13.56	14.42	14.83
	12H	4.06	4.92	4.49	5.30	5.73	13.21	14.07	13.64	14.45	14.88
4H	2H	1.82	2.85	2.22	3.21	3.59	12.67	13.70	13.07	14.05	14.44
	3H	4.14	4.98	4.55	5.39	5.79	12.84	13.69	13.26	14.09	14.50
	4H	5.51	6.26	5.94	6.68	7.13	12.99	13.75	13.43	14.17	14.61
	6H	6.60	7.25	7.06	7.70	8.17	13.22	13.87	13.68	14.32	14.79
	8H	7.06	7.67	7.53	8.11	8.58	13.34	13.95	13.81	14.40	14.87
	12H	7.55	8.09	8.04	8.57	9.05	13.51	14.05	14.00	14.54	15.01
8H	4H	6.48	7.09	6.95	7.54	8.01	12.99	13.60	13.46	14.05	14.52
	6H	8.00	8.50	8.51	9.00	9.48	13.33	13.83	13.83	14.32	14.81
	8H	8.77	9.22	9.30	9.74	10.23	13.56	14.01	14.08	14.52	15.02
	12H	9.58	9.98	10.10	10.47	11.05	13.89	14.29	14.41	14.78	15.36
12H	4H	6.66	7.20	7.15	7.68	8.16	12.98	13.51	13.46	14.00	14.47
	6H	8.32	8.77	8.84	9.28	9.77	13.35	13.80	13.87	14.31	14.81
	8H	9.27	9.66	9.78	10.16	10.73	13.65	14.05	14.17	14.55	15.12