

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: P1059716

Luminaire Tested: S123RDR-H560D940-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059716  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-69)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H560D940-X4F0-XX-UDD-BVL-S  
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

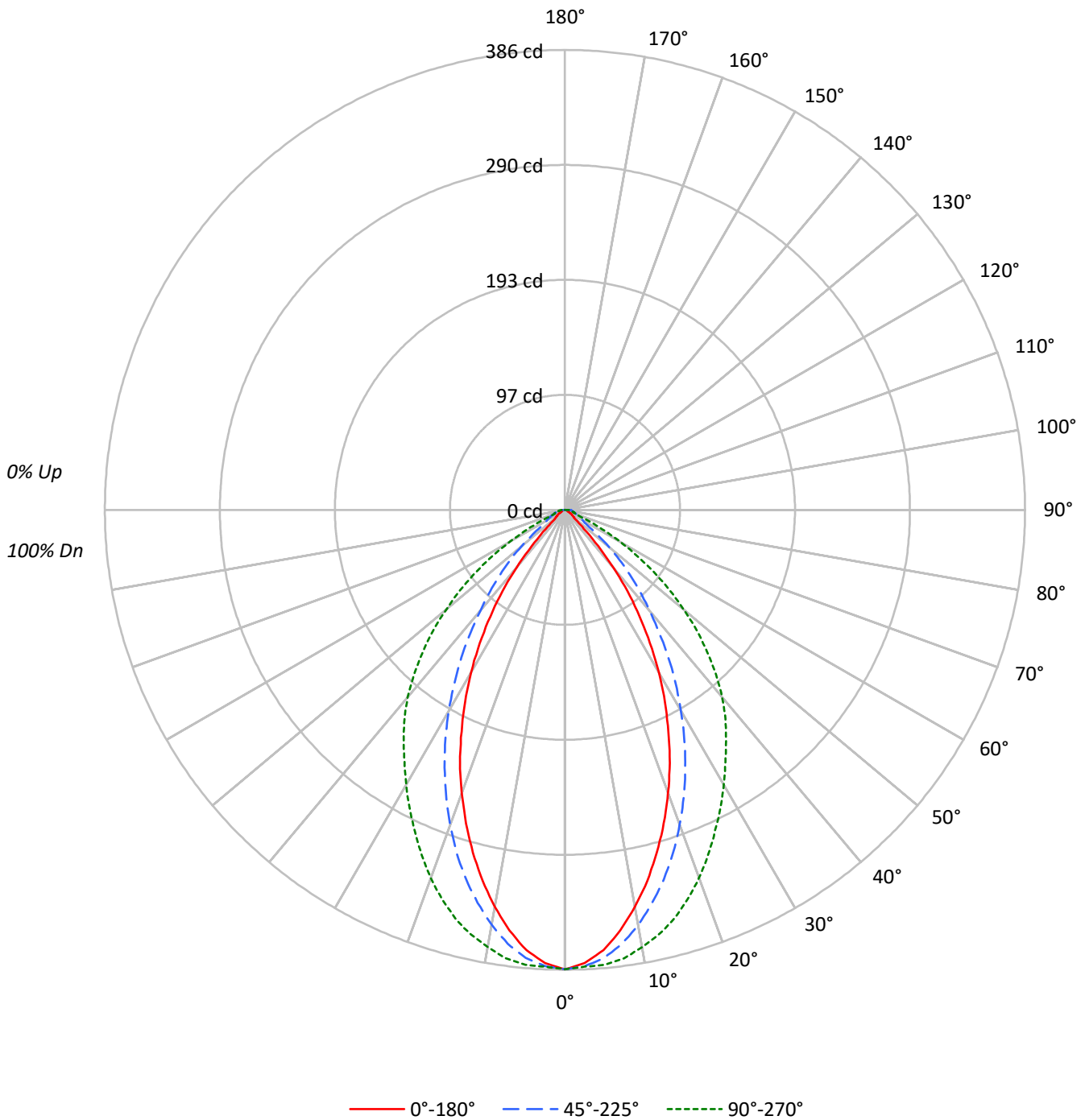
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 463.2 lumens  
Efficiency: N/A  
Efficacy: 26.6 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	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	89	102	97	92	88	94	90	86	90	87	85	88	85	83	81				
3	98	90	84	79	96	89	83	78	86	81	77	83	79	76	81	78	75	73				
4	92	83	76	71	90	81	75	70	79	74	69	77	72	69	75	71	68	66				
5	86	76	69	64	84	75	68	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	64	58	53	63	57	53	62	56	52	61	56	52	50				
8	72	61	54	49	70	60	53	49	59	53	48	58	52	48	57	52	48	46				
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	41	40				

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

	0°	45°	90°
0°	4528	4528	4528
5°	4372	4449	4518
10°	4035	4219	4443
15°	3620	3900	4316
20°	3160	3514	4111
25°	2659	3094	3858
30°	2134	2639	3613
35°	1564	2172	3380
40°	967	1691	3145
45°	372	1274	2800
50°	183	873	2369
55°	145	483	1859
60°	96	402	1247
65°	81	361	556
70°	82	323	323
75°	109	349	322
80°	162	440	358
85°	243	714	472

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 2800 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.4	7.6
10°-20°	90.5	19.5
20°-30°	112.3	24.3
30°-40°	100.6	21.7
40°-50°	66.2	14.3
50°-60°	33.2	7.2
60°-70°	13.1	2.8
70°-80°	7.3	1.6
80°-90°	4.6	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°	238.2	51.4
0°-40°	338.9	73.2
0°-60°	438.2	94.6
0°-90°	463.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	463.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	386	386	386	386	386	
5°	371	377	377	380	383	34
15°	298	307	321	343	355	83
25°	205	218	239	272	298	94
35°	109	124	152	198	236	68
45°	22	37	77	129	169	21
55°	7	8	24	64	91	6
65°	3	8	13	16	20	3
75°	2	8	8	7	7	3
85°	2	5	5	5	4	2
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	385.6	385.6	385.6	385.6	385.6
2.5°	380.9	386.2	383.3	383.3	383.8
5°	370.9	376.8	377.4	379.7	383.3
7.5°	356.1	363.8	367.3	374.4	379.7
10°	338.4	346.7	353.8	366.2	372.6
12.5°	319.0	327.2	337.9	355.0	365.0
15°	297.8	307.2	320.8	342.6	355.0
17.5°	275.9	285.4	301.9	326.6	342.6
20°	252.9	263.6	281.2	309.6	329.0
22.5°	230.0	241.7	260.6	291.3	313.7
25°	205.2	218.2	238.8	272.4	297.8
27.5°	181.6	195.2	217.0	253.5	282.4
30°	157.4	171.0	194.6	234.1	266.5
32.5°	132.7	148.0	172.8	215.8	250.6
35°	109.1	123.8	151.5	198.1	235.8
37.5°	86.1	100.8	129.7	181.0	221.1
40°	63.1	78.4	110.3	164.5	205.2
42.5°	41.3	57.2	93.2	148.0	187.5
45°	22.4	37.1	76.7	129.1	168.6
47.5°	12.4	20.0	61.9	111.4	150.4
50°	10.0	11.2	47.8	94.9	129.7
52.5°	8.3	9.4	34.2	79.0	110.8
55°	7.1	8.3	23.6	63.7	90.8
57.5°	5.9	7.1	18.9	48.9	71.3
60°	4.1	7.1	17.1	36.0	53.1
62.5°	3.5	7.1	14.7	24.8	35.4
65°	2.9	8.3	13.0	16.5	20.0
67.5°	2.4	8.3	11.2	10.6	10.6
70°	2.4	8.3	9.4	8.8	9.4
72.5°	2.4	8.8	8.8	8.3	8.3
75°	2.4	7.7	7.7	7.1	7.1
77.5°	2.4	7.1	7.1	6.5	6.5
80°	2.4	6.5	6.5	5.9	5.3
82.5°	2.4	5.9	5.9	5.3	4.7
85°	1.8	5.3	5.3	5.3	3.5
87.5°	1.8	4.7	5.3	4.7	2.9
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	0.00	0.00	11.79	13.05	12.15	13.36	13.67
	3H	0.27	1.38	0.65	1.71	2.08	11.87	12.98	12.25	13.31	13.68
	4H	1.44	2.47	1.84	2.82	3.21	11.93	12.97	12.34	13.32	13.70
	6H	2.50	3.45	2.91	3.82	4.21	12.03	12.98	12.45	13.35	13.75
	8H	3.04	3.94	3.47	4.33	4.74	12.09	12.99	12.52	13.38	13.79
	12H	3.53	4.39	3.96	4.77	5.20	12.16	13.02	12.59	13.40	13.83
4H	2H	0.98	2.02	1.38	2.37	2.75	11.65	12.68	12.05	13.04	13.42
	3H	3.44	4.29	3.86	4.70	5.10	11.82	12.67	12.24	13.07	13.48
	4H	4.80	5.55	5.23	5.97	6.42	11.95	12.71	12.39	13.13	13.57
	6H	5.93	6.59	6.40	7.04	7.50	12.17	12.82	12.63	13.27	13.74
	8H	6.45	7.06	6.92	7.51	7.98	12.29	12.90	12.76	13.35	13.82
	12H	6.91	7.45	7.39	7.93	8.41	12.45	12.99	12.94	13.47	13.95
8H	4H	5.71	6.32	6.18	6.77	7.24	11.96	12.57	12.43	13.01	13.49
	6H	7.31	7.81	7.82	8.31	8.79	12.29	12.79	12.79	13.29	13.77
	8H	8.14	8.59	8.66	9.11	9.60	12.51	12.97	13.04	13.48	13.98
	12H	8.92	9.32	9.44	9.81	10.39	12.84	13.24	13.35	13.73	14.30
12H	4H	5.88	6.42	6.37	6.90	7.38	11.95	12.48	12.43	12.97	13.44
	6H	7.63	8.08	8.15	8.60	9.09	12.32	12.77	12.84	13.29	13.78
	8H	8.64	9.03	9.15	9.53	10.10	12.63	13.03	13.14	13.52	14.09