

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: P1059671

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

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059671  
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-H560D840-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, 80 CRI LEDS  
Ballast/Driver: -

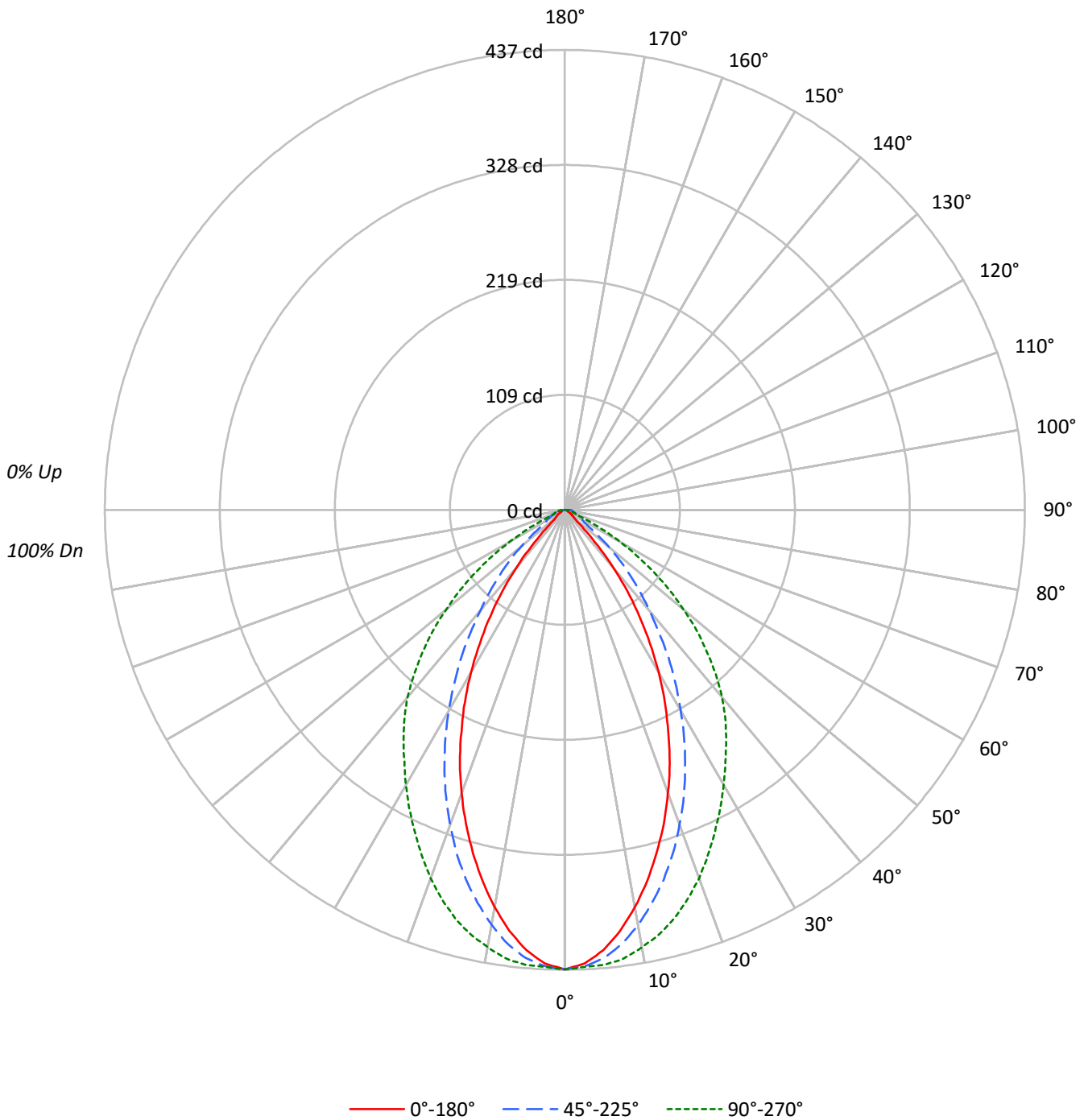
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 524.5 lumens  
Efficiency: N/A  
Efficacy: 30.1 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	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°	5128	5128	5128
5°	4951	5038	5116
10°	4570	4777	5032
15°	4099	4417	4887
20°	3580	3980	4656
25°	3011	3503	4369
30°	2418	2988	4092
35°	1770	2460	3829
40°	1094	1915	3562
45°	422	1441	3172
50°	208	988	2684
55°	164	547	2105
60°	110	456	1411
65°	92	408	631
70°	93	367	367
75°	122	395	363
80°	183	494	406
85°	269	808	539

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 3172 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.0	7.6
10°-20°	102.5	19.5
20°-30°	127.2	24.3
30°-40°	114.0	21.7
40°-50°	74.9	14.3
50°-60°	37.5	7.2
60°-70°	14.8	2.8
70°-80°	8.3	1.6
80°-90°	5.2	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°	269.8	51.4
0°-40°	383.8	73.2
0°-60°	496.2	94.6
0°-90°	524.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	524.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	437	437	437	437	437	
5°	420	427	427	430	434	39
15°	337	348	363	388	402	94
25°	232	247	270	308	337	106
35°	124	140	172	224	267	77
45°	25	42	87	146	191	24
55°	8	9	27	72	103	7
65°	3	9	15	19	23	3
75°	3	9	9	8	8	3
85°	2	6	6	6	4	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	436.7	436.7	436.7	436.7	436.7
2.5°	431.4	437.4	434.0	434.0	434.7
5°	420.0	426.7	427.4	430.0	434.0
7.5°	403.3	412.0	416.0	424.0	430.0
10°	383.3	392.6	400.6	414.7	422.0
12.5°	361.3	370.6	382.6	402.0	413.3
15°	337.2	347.9	363.3	388.0	402.0
17.5°	312.5	323.2	341.9	369.9	388.0
20°	286.5	298.5	318.5	350.6	372.6
22.5°	260.4	273.8	295.1	329.9	355.2
25°	232.4	247.1	270.4	308.5	337.2
27.5°	205.7	221.0	245.7	287.1	319.9
30°	178.3	193.6	220.4	265.1	301.8
32.5°	150.2	167.6	195.6	244.4	283.8
35°	123.5	140.2	171.6	224.4	267.1
37.5°	97.5	114.2	146.9	205.0	250.4
40°	71.4	88.8	124.9	186.3	232.4
42.5°	46.7	64.8	105.5	167.6	212.3
45°	25.4	42.1	86.8	146.2	191.0
47.5°	14.0	22.7	70.1	126.2	170.3
50°	11.4	12.7	54.1	107.5	146.9
52.5°	9.3	10.7	38.7	89.5	125.5
55°	8.0	9.3	26.7	72.1	102.8
57.5°	6.7	8.0	21.4	55.4	80.8
60°	4.7	8.0	19.4	40.7	60.1
62.5°	4.0	8.0	16.7	28.0	40.1
65°	3.3	9.3	14.7	18.7	22.7
67.5°	2.7	9.3	12.7	12.0	12.0
70°	2.7	9.3	10.7	10.0	10.7
72.5°	2.7	10.0	10.0	9.3	9.3
75°	2.7	8.7	8.7	8.0	8.0
77.5°	2.7	8.0	8.0	7.3	7.3
80°	2.7	7.3	7.3	6.7	6.0
82.5°	2.7	6.7	6.7	6.0	5.3
85°	2.0	6.0	6.0	6.0	4.0
87.5°	2.0	5.3	6.0	5.3	3.3
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	0.02	12.22	13.48	12.59	13.79	14.11
	3H	0.65	1.77	1.03	2.10	2.46	12.30	13.42	12.68	13.75	14.11
	4H	1.83	2.87	2.24	3.22	3.60	12.37	13.40	12.77	13.75	14.14
	6H	2.89	3.84	3.30	4.21	4.61	12.46	13.41	12.88	13.78	14.18
	8H	3.43	4.33	3.87	4.73	5.13	12.52	13.42	12.95	13.81	14.22
	12H	3.92	4.78	4.35	5.16	5.59	12.59	13.45	13.02	13.83	14.26
4H	2H	1.40	2.44	1.80	2.79	3.17	12.08	13.12	12.49	13.47	13.86
	3H	3.85	4.70	4.27	5.11	5.51	12.26	13.10	12.67	13.51	13.91
	4H	5.21	5.96	5.64	6.39	6.83	12.38	13.14	12.82	13.56	14.01
	6H	6.34	6.99	6.80	7.44	7.91	12.60	13.25	13.06	13.70	14.17
	8H	6.85	7.46	7.32	7.91	8.38	12.72	13.33	13.19	13.78	14.25
	12H	7.31	7.85	7.80	8.33	8.81	12.88	13.42	13.37	13.90	14.38
8H	4H	6.12	6.73	6.59	7.18	7.65	12.39	13.00	12.86	13.45	13.92
	6H	7.72	8.22	8.22	8.71	9.20	12.72	13.22	13.22	13.71	14.20
	8H	8.55	9.00	9.07	9.52	10.01	12.94	13.39	13.47	13.91	14.40
	12H	9.33	9.73	9.85	10.22	10.80	13.27	13.67	13.78	14.16	14.73
12H	4H	6.29	6.83	6.78	7.31	7.79	12.38	12.92	12.86	13.40	13.87
	6H	8.03	8.48	8.56	9.00	9.49	12.75	13.20	13.27	13.71	14.21
	8H	9.05	9.45	9.56	9.94	10.51	13.06	13.45	13.57	13.95	14.52