

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: P1059718

Luminaire Tested: S123RDR-H560D940-X4F0-XX-UDD-SVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059718  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-29)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H560D940-X4F0-XX-UDD-SVL-B  
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH SILVER STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

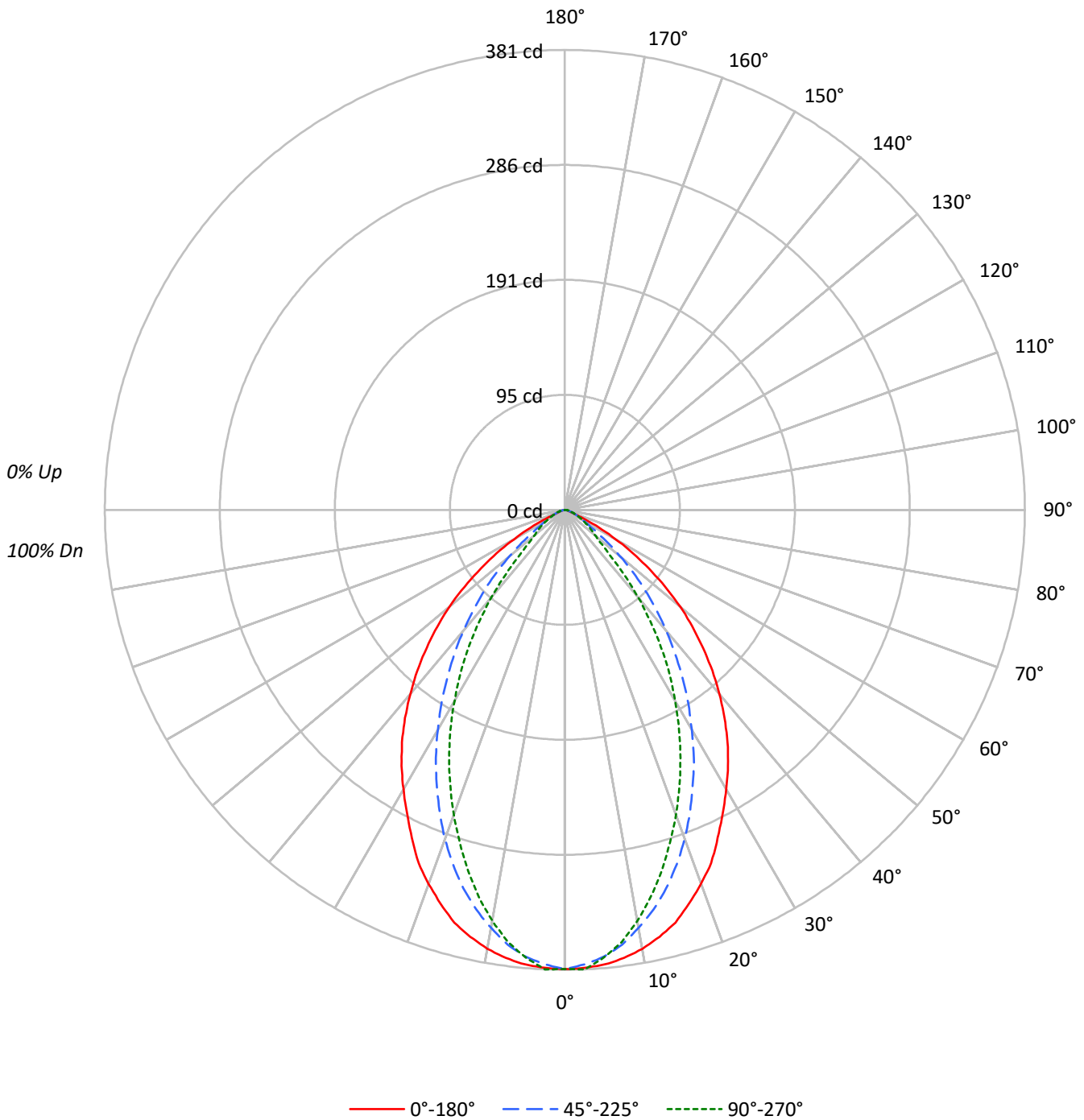
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 491.1 lumens  
Efficiency: N/A  
Efficacy: 28.2 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 0.85 / 0.98  
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	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91				
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	82				
3	98	90	84	80	96	89	83	79	86	82	78	84	80	76	81	78	75	73				
4	92	83	76	71	90	82	75	70	79	74	70	77	73	69	75	71	68	66				
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60				
6	81	70	63	58	79	69	62	58	68	62	57	66	61	57	65	60	56	55				
7	76	65	58	53	74	64	57	53	63	57	52	61	56	52	60	55	52	50				
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46				
9	67	56	49	45	66	56	49	44	55	48	44	54	48	44	53	48	44	42				
10	64	52	46	41	63	52	46	41	51	45	41	50	45	41	49	44	41	39				

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

	0°	45°	90°
0°	4467	4467	4467
5°	4457	4380	4387
10°	4402	4192	4122
15°	4302	3945	3765
20°	4121	3628	3363
25°	3883	3251	2937
30°	3624	2850	2476
35°	3369	2431	1993
40°	3050	2003	1444
45°	2689	1554	870
50°	2280	1087	592
55°	1736	651	493
60°	1134	416	388
65°	475	311	311
70°	161	223	244
75°	132	159	186
80°	81	122	162
85°	81	81	162

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2689 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.1	7.2
10°-20°	91.9	18.7
20°-30°	117.9	24.0
30°-40°	110.7	22.5
40°-50°	77.2	15.7
50°-60°	39.9	8.1
60°-70°	13.6	2.8
70°-80°	3.9	0.8
80°-90°	0.8	0.2
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°	245.0	49.9
0°-40°	355.6	72.4
0°-60°	472.7	96.3
0°-90°	491.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	491.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	380	380	380	380	380	
5°	378	378	372	373	372	36
15°	354	345	324	314	310	99
25°	300	281	251	234	227	138
35°	235	206	170	148	139	146
45°	162	132	94	65	52	125
55°	85	64	32	25	24	76
65°	17	15	11	11	11	20
75°	3	3	4	4	4	3
85°	1	1	1	1	1	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	380.4	380.4	380.4	380.4	380.4
2.5°	379.8	380.4	376.9	380.4	381.0
5°	378.1	377.5	371.6	373.3	372.2
7.5°	374.5	372.8	363.3	361.0	361.0
10°	369.2	365.7	351.6	347.4	345.7
12.5°	362.2	357.4	339.2	331.5	328.6
15°	353.9	345.1	324.5	313.9	309.7
17.5°	342.1	330.4	308.0	295.6	289.1
20°	329.8	315.0	290.3	275.6	269.1
22.5°	316.8	299.1	270.9	255.0	247.9
25°	299.7	280.9	250.9	233.8	226.7
27.5°	283.2	263.2	231.4	212.0	204.9
30°	267.3	243.8	210.2	191.4	182.6
32.5°	251.5	225.0	190.2	169.6	161.4
35°	235.0	206.1	169.6	147.8	139.0
37.5°	217.3	187.9	150.2	126.6	116.0
40°	199.0	168.4	130.7	104.2	94.2
42.5°	180.8	150.8	111.3	84.2	72.4
45°	161.9	132.5	93.6	64.8	52.4
47.5°	143.1	114.2	76.6	47.1	39.5
50°	124.8	97.2	59.5	34.7	32.4
52.5°	104.8	80.7	44.8	28.9	28.3
55°	84.8	63.6	31.8	24.7	24.1
57.5°	67.1	49.5	23.0	20.6	20.0
60°	48.3	35.3	17.7	17.1	16.5
62.5°	31.8	24.1	14.1	13.5	13.5
65°	17.1	14.7	11.2	10.6	11.2
67.5°	7.1	8.2	8.2	8.8	8.8
70°	4.7	5.3	6.5	7.1	7.1
72.5°	3.5	4.1	4.7	5.3	5.3
75°	2.9	2.9	3.5	4.1	4.1
77.5°	1.8	2.4	2.4	2.9	3.5
80°	1.2	1.8	1.8	2.4	2.4
82.5°	0.6	1.2	1.2	1.8	1.8
85°	0.6	0.6	0.6	0.6	1.2
87.5°	0.0	0.0	0.0	0.0	0.6
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	11.54	12.79	11.90	13.11	13.42	5.04	6.29	5.40	6.61	6.92
	3H	11.49	12.60	11.87	12.93	13.29	5.81	6.92	6.19	7.25	7.61
	4H	11.43	12.46	11.84	12.82	13.20	6.01	7.04	6.41	7.39	7.78
	6H	11.36	12.31	11.78	12.68	13.07	6.15	7.10	6.57	7.47	7.86
	8H	11.32	12.21	11.75	12.61	13.01	6.19	7.08	6.62	7.48	7.88
	12H	11.28	12.13	11.71	12.51	12.94	6.21	7.06	6.65	7.45	7.88
4H	2H	11.38	12.41	11.79	12.76	13.15	5.29	6.32	5.70	6.67	7.06
	3H	11.37	12.20	11.78	12.61	13.01	6.20	7.04	6.61	7.44	7.84
	4H	11.31	12.06	11.75	12.48	12.92	6.47	7.21	6.91	7.63	8.08
	6H	11.26	11.90	11.72	12.34	12.81	6.69	7.33	7.15	7.77	8.24
	8H	11.21	11.80	11.68	12.25	12.72	6.75	7.35	7.22	7.80	8.27
	12H	11.16	11.68	11.65	12.17	12.64	6.80	7.32	7.28	7.80	8.28
8H	4H	11.20	11.80	11.67	12.24	12.72	6.45	7.05	6.93	7.50	7.97
	6H	11.14	11.62	11.64	12.12	12.60	6.73	7.21	7.23	7.71	8.19
	8H	11.09	11.52	11.61	12.04	12.54	6.84	7.28	7.36	7.79	8.29
	12H	11.05	11.44	11.57	11.93	12.51	6.92	7.30	7.43	7.80	8.37
12H	4H	11.15	11.68	11.64	12.16	12.64	6.42	6.94	6.91	7.43	7.90
	6H	11.08	11.52	11.61	12.03	12.53	6.69	7.12	7.21	7.64	8.13
	8H	11.05	11.44	11.57	11.93	12.51	6.83	7.22	7.35	7.72	8.29