

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: P1059708

Luminaire Tested: S123RDR-H560D935-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059708  
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-H560D935-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: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

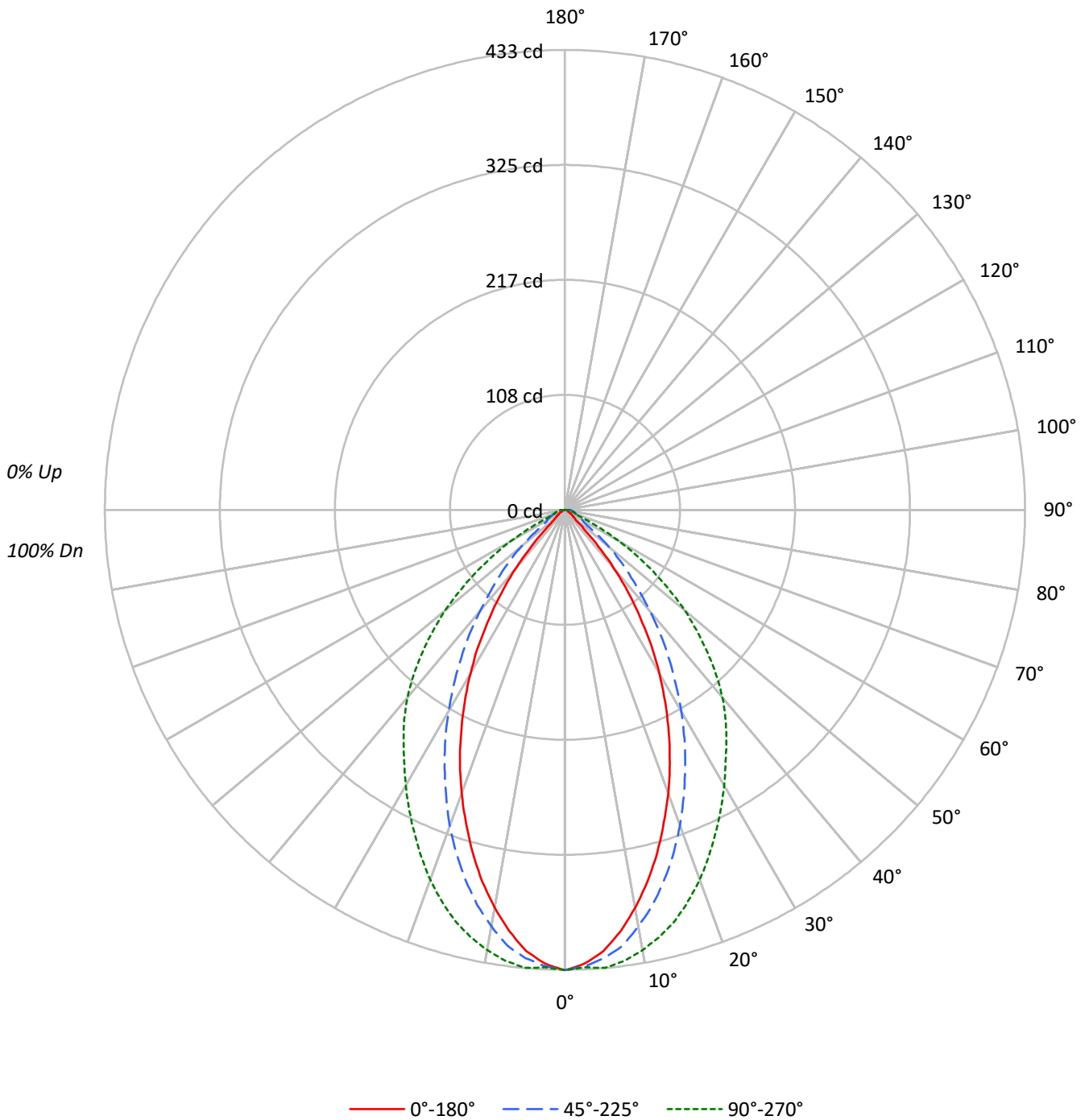
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 520.3 lumens  
Efficiency: N/A  
Efficacy: 29.9 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										
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	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°	5089	5089	5089
5°	4914	4994	5102
10°	4536	4747	5017
15°	4070	4389	4866
20°	3551	3956	4632
25°	2996	3468	4346
30°	2409	2965	4061
35°	1763	2441	3796
40°	1101	1902	3535
45°	417	1418	3149
50°	197	977	2684
55°	151	536	2076
60°	108	456	1364
65°	78	395	570
70°	79	371	371
75°	104	386	386
80°	156	460	426
85°	310	768	620

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 3149 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.8	7.6
10°-20°	102.0	19.6
20°-30°	126.3	24.3
30°-40°	113.2	21.8
40°-50°	74.2	14.3
50°-60°	37.2	7.1
60°-70°	14.5	2.8
70°-80°	8.2	1.6
80°-90°	5.0	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°	268.1	51.5
0°-40°	381.3	73.3
0°-60°	492.6	94.7
0°-90°	520.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	520.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	433	433	433	433	433	
5°	417	424	424	428	433	39
15°	335	348	361	385	400	93
25°	231	245	268	306	335	106
35°	123	140	170	222	265	77
45°	25	40	85	146	190	24
55°	7	9	26	72	101	7
65°	3	8	14	19	20	3
75°	2	8	8	8	8	2
85°	2	6	6	6	5	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	433.4	433.4	433.4	433.4	433.4
2.5°	427.7	433.9	430.0	430.5	431.1
5°	416.9	423.7	423.7	428.2	432.8
7.5°	400.3	408.3	414.0	422.0	428.2
10°	380.4	390.1	398.1	412.3	420.8
12.5°	358.8	370.7	381.0	399.8	411.7
15°	334.8	348.5	361.0	385.0	400.3
17.5°	309.2	322.9	339.4	367.3	386.1
20°	284.2	297.8	316.6	347.9	370.7
22.5°	258.0	272.2	292.1	326.9	353.6
25°	231.2	245.4	267.7	305.8	335.4
27.5°	204.4	218.7	243.7	285.3	317.8
30°	177.7	191.9	218.7	263.1	299.5
32.5°	150.9	166.3	194.2	242.6	281.3
35°	123.0	139.5	170.3	221.5	264.8
37.5°	97.4	112.8	147.5	203.3	248.3
40°	71.8	88.3	124.1	185.6	230.6
42.5°	46.7	64.4	103.1	166.3	210.7
45°	25.1	40.4	85.4	146.4	189.6
47.5°	13.7	22.2	68.9	125.3	168.0
50°	10.8	12.5	53.5	107.1	146.9
52.5°	9.1	10.3	38.2	90.0	123.6
55°	7.4	9.1	26.2	71.8	101.4
57.5°	6.3	8.0	20.5	55.8	79.2
60°	4.6	6.8	19.4	41.0	58.1
62.5°	3.4	7.4	17.1	28.5	38.2
65°	2.8	8.5	14.2	18.8	20.5
67.5°	2.3	9.1	12.5	12.0	12.0
70°	2.3	8.5	10.8	10.3	10.8
72.5°	2.3	9.1	9.7	9.1	9.7
75°	2.3	8.5	8.5	8.5	8.5
77.5°	2.3	8.0	8.0	7.4	7.4
80°	2.3	6.8	6.8	6.8	6.3
82.5°	2.3	6.3	6.3	6.3	5.1
85°	2.3	5.7	5.7	5.7	4.6
87.5°	1.7	5.1	5.7	5.1	3.4
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	12.26	13.51	12.62	13.83	14.14
	3H	0.35	1.46	0.73	1.79	2.16	12.34	13.45	12.72	13.78	14.15
	4H	1.45	2.49	1.86	2.84	3.22	12.42	13.45	12.82	13.80	14.18
	6H	2.45	3.40	2.87	3.77	4.17	12.52	13.47	12.94	13.84	14.23
	8H	2.94	3.83	3.37	4.23	4.63	12.58	13.48	13.01	13.87	14.27
	12H	3.50	4.36	3.93	4.74	5.17	12.66	13.52	13.09	13.90	14.33
4H	2H	1.26	2.29	1.66	2.64	3.03	12.11	13.15	12.52	13.50	13.88
	3H	3.57	4.42	3.99	4.82	5.23	12.29	13.13	12.70	13.54	13.94
	4H	4.94	5.69	5.37	6.11	6.56	12.44	13.19	12.87	13.61	14.06
	6H	6.03	6.68	6.49	7.13	7.60	12.66	13.32	13.13	13.76	14.23
	8H	6.49	7.10	6.96	7.55	8.02	12.79	13.40	13.26	13.85	14.32
	12H	6.99	7.53	7.48	8.02	8.49	12.96	13.50	13.45	13.99	14.46
8H	4H	5.91	6.52	6.39	6.97	7.44	12.43	13.04	12.91	13.49	13.96
	6H	7.44	7.94	7.94	8.43	8.92	12.77	13.27	13.28	13.77	14.25
	8H	8.22	8.67	8.74	9.19	9.68	13.01	13.45	13.53	13.97	14.46
	12H	9.03	9.43	9.55	9.92	10.50	13.34	13.74	13.86	14.24	14.81
12H	4H	6.09	6.63	6.58	7.11	7.59	12.42	12.96	12.91	13.44	13.92
	6H	7.75	8.20	8.28	8.72	9.21	12.79	13.24	13.31	13.76	14.25
	8H	8.72	9.12	9.23	9.61	10.18	13.10	13.50	13.62	14.00	14.57