

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: P1060689

Luminaire Tested: S124RDR-H1020D940-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060689  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-75)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H1020D940-X4F0-XX-UDD-BVL-W  
Description: DEFINE 4 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

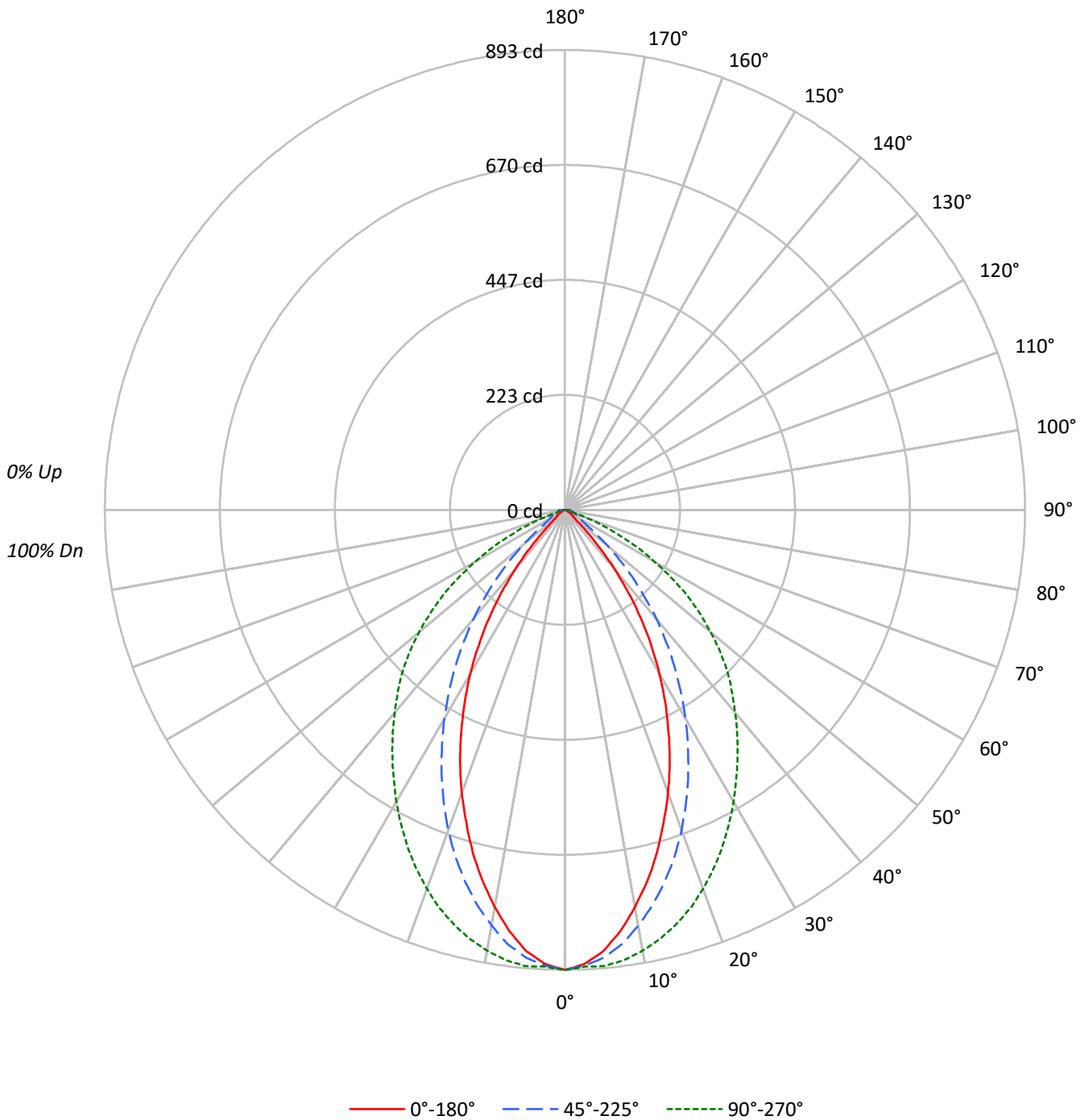
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1125.7 lumens  
Efficiency: N/A  
Efficacy: 36.1 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.11 / 0.97  
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.2  
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	98	93	89	102	97	92	88	93	89	86	90	87	84	87	85	82	81				
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74	72				
4	91	82	75	70	89	81	75	70	79	73	69	76	72	68	74	70	67	65				
5	86	75	68	63	84	74	68	63	72	67	62	71	66	62	69	65	61	59				
6	80	70	62	57	79	69	62	57	67	61	56	66	60	56	64	59	56	54				
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49				
8	71	60	53	48	70	59	52	48	58	52	48	57	51	47	56	51	47	45				
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42				
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39				

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

	0°	45°	90°
0°	7691	7691	7691
5°	7430	7539	7685
10°	6847	7168	7599
15°	6149	6664	7430
20°	5361	6062	7176
25°	4522	5379	6863
30°	3648	4649	6505
35°	2700	3891	6138
40°	1674	3099	5775
45°	664	2260	5439
50°	295	1419	4943
55°	236	740	4328
60°	162	560	3448
65°	106	556	2372
70°	106	501	1108
75°	140	489	489
80°	208	570	570
85°	415	1136	830

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 5439 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.9	7.3
10°-20°	211.5	18.8
20°-30°	266.9	23.7
30°-40°	244.9	21.8
40°-50°	166.8	14.8
50°-60°	90.9	8.1
60°-70°	39.3	3.5
70°-80°	14.3	1.3
80°-90°	9.2	0.8
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°	560.3	49.8
0°-40°	805.2	71.5
0°-60°	1062.8	94.4
0°-90°	1125.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1125.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	893	893	893	893	893	
5°	860	871	872	882	889	80
15°	690	714	748	801	833	192
25°	476	510	566	656	722	217
35°	257	295	370	488	584	159
45°	54	91	186	329	447	51
55°	16	17	49	181	288	14
65°	5	7	27	57	116	6
75°	4	14	15	15	15	4
85°	4	9	12	12	8	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	893.2	893.2	893.2	893.2	893.2
2.5°	882.7	893.2	885.8	887.9	887.9
5°	859.6	871.2	872.2	881.6	889.0
7.5°	825.0	841.8	850.2	869.1	881.6
10°	783.1	803.0	819.8	852.3	869.1
12.5°	738.0	761.1	786.2	829.2	853.3
15°	689.8	713.9	747.5	800.9	833.4
17.5°	636.3	665.7	706.6	770.5	810.4
20°	585.0	614.3	661.5	733.8	783.1
22.5°	531.5	561.9	614.3	695.0	753.7
25°	475.9	509.5	566.1	656.3	722.3
27.5°	421.4	457.1	516.8	615.4	688.8
30°	366.9	402.6	467.6	573.4	654.2
32.5°	311.4	348.0	418.3	529.4	618.5
35°	256.8	294.6	370.1	487.5	583.9
37.5°	201.3	241.1	321.8	446.6	549.3
40°	148.9	188.7	275.7	405.7	513.7
42.5°	99.6	139.4	228.5	365.9	480.1
45°	54.5	91.2	185.6	329.2	446.6
47.5°	29.4	50.3	143.6	293.5	408.8
50°	22.0	27.3	105.9	255.8	369.0
52.5°	18.9	21.0	73.4	216.0	329.2
55°	15.7	16.8	49.3	181.4	288.3
57.5°	12.6	13.6	36.7	146.8	244.3
60°	9.4	11.5	32.5	113.2	200.2
62.5°	7.3	9.4	30.4	82.8	158.3
65°	5.2	7.3	27.3	56.6	116.4
67.5°	5.2	8.4	23.1	36.7	78.6
70°	4.2	11.5	19.9	24.1	44.0
72.5°	4.2	12.6	16.8	16.8	16.8
75°	4.2	13.6	14.7	14.7	14.7
77.5°	4.2	12.6	13.6	12.6	12.6
80°	4.2	11.5	11.5	11.5	11.5
82.5°	4.2	10.5	11.5	11.5	9.4
85°	4.2	9.4	11.5	11.5	8.4
87.5°	3.1	9.4	10.5	10.5	6.3
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	15.50	16.78	15.86	17.09	17.40
	3H	0.00	0.67	0.00	1.00	1.37	15.87	17.00	16.25	17.33	17.70
	4H	0.76	1.82	1.17	2.17	2.55	15.85	16.90	16.26	17.26	17.64
	6H	1.95	2.92	2.37	3.29	3.68	15.84	16.81	16.26	17.18	17.57
	8H	2.54	3.46	2.97	3.85	4.25	15.84	16.75	16.27	17.14	17.55
	12H	3.21	4.09	3.65	4.47	4.90	15.85	16.73	16.29	17.11	17.54
4H	2H	1.74	2.80	2.15	3.15	3.53	15.31	16.36	15.71	16.71	17.10
	3H	3.33	4.18	3.74	4.59	4.99	15.73	16.59	16.14	16.99	17.40
	4H	4.62	5.38	5.05	5.80	6.25	15.73	16.49	16.16	16.91	17.36
	6H	5.75	6.41	6.21	6.85	7.32	15.77	16.43	16.23	16.88	17.34
	8H	6.26	6.87	6.73	7.32	7.79	15.79	16.41	16.26	16.86	17.33
	12H	6.81	7.35	7.29	7.84	8.31	15.86	16.40	16.35	16.89	17.36
8H	4H	5.70	6.32	6.17	6.77	7.24	15.64	16.25	16.11	16.70	17.17
	6H	7.24	7.75	7.75	8.25	8.73	15.71	16.22	16.22	16.72	17.20
	8H	8.05	8.51	8.58	9.02	9.52	15.80	16.25	16.32	16.77	17.26
	12H	8.88	9.29	9.40	9.78	10.35	15.97	16.37	16.48	16.86	17.44
12H	4H	5.89	6.44	6.38	6.92	7.39	15.60	16.15	16.09	16.63	17.10
	6H	7.60	8.05	8.12	8.57	9.06	15.69	16.14	16.21	16.66	17.15
	8H	8.61	9.01	9.13	9.51	10.08	15.82	16.23	16.34	16.72	17.29