

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: P1059430

Luminaire Tested: S123RDR-H1000D840-X4F0-XX-UDD-SVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059430  
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-H1000D840-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, 80 CRI LEDS  
Ballast/Driver: -

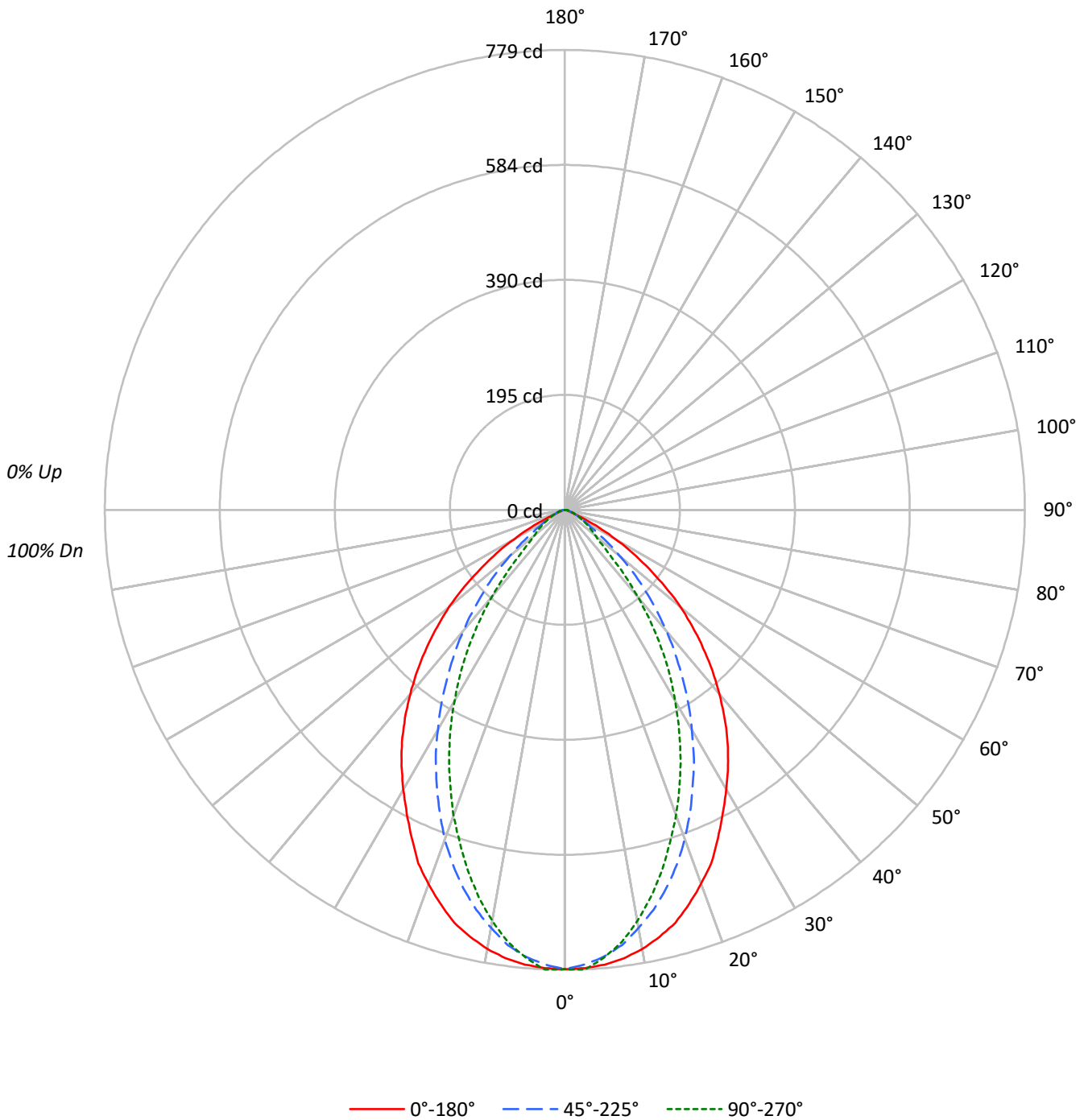
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1004.5 lumens  
Efficiency: N/A  
Efficacy: 32.2 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): 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				100
1	112	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91				91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	82				82
3	98	90	84	80	96	89	83	79	86	82	78	84	80	76	81	78	75	73				73
4	92	83	76	71	90	82	75	71	79	74	70	77	73	69	75	71	68	66				66
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60				60
6	81	70	63	58	79	69	62	58	68	62	57	66	61	57	65	60	56	55				55
7	76	65	58	53	74	64	57	53	63	57	52	61	56	52	60	55	52	50				50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46				46
9	67	56	49	45	66	56	49	44	55	49	44	54	48	44	53	48	44	42				42
10	64	52	46	41	63	52	46	41	51	45	41	50	45	41	49	44	41	39				39

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

	0°	45°	90°
0°	9137	9137	9137
5°	9115	8958	8974
10°	9005	8574	8430
15°	8800	8068	7702
20°	8429	7420	6879
25°	7944	6648	6008
30°	7414	5830	5063
35°	6889	4973	4075
40°	6240	4099	2954
45°	5500	3180	1780
50°	4666	2223	1209
55°	3550	1331	1011
60°	2320	848	791
65°	970	636	636
70°	330	453	498
75°	272	327	381
80°	162	243	325
85°	162	162	323

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5500 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.9	7.2
10°-20°	188.1	18.7
20°-30°	241.2	24.0
30°-40°	226.3	22.5
40°-50°	157.9	15.7
50°-60°	81.6	8.1
60°-70°	27.9	2.8
70°-80°	7.9	0.8
80°-90°	1.7	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°	501.1	49.9
0°-40°	727.4	72.4
0°-60°	967.0	96.3
0°-90°	1004.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1004.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	778	778	778	778	778	
5°	773	772	760	764	761	73
15°	724	706	664	642	634	203
25°	613	575	513	478	464	282
35°	481	422	347	302	284	299
45°	331	271	192	132	107	255
55°	173	130	65	51	49	156
65°	35	30	23	22	23	41
75°	6	6	7	8	8	6
85°	1	1	1	1	2	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	778.1	778.1	778.1	778.1	778.1
2.5°	776.9	778.1	770.9	778.1	779.3
5°	773.3	772.1	760.0	763.7	761.3
7.5°	766.1	762.5	743.2	738.4	738.4
10°	755.2	748.0	719.1	710.7	707.0
12.5°	740.8	731.1	693.8	678.1	672.1
15°	723.9	705.8	663.7	642.0	633.6
17.5°	699.8	675.7	630.0	604.7	591.4
20°	674.5	644.4	593.8	563.7	550.5
22.5°	648.0	611.9	554.1	521.6	507.1
25°	613.1	574.6	513.1	478.2	463.7
27.5°	579.4	538.4	473.4	433.6	419.2
30°	546.8	498.7	430.0	391.5	373.4
32.5°	514.3	460.1	389.1	346.9	330.0
35°	480.6	421.6	346.9	302.3	284.3
37.5°	444.5	384.2	307.2	259.0	237.3
40°	407.1	344.5	267.4	213.2	192.7
42.5°	369.8	308.4	227.7	172.2	148.2
45°	331.2	271.0	191.5	132.5	107.2
47.5°	292.7	233.7	156.6	96.4	80.7
50°	255.4	198.7	121.7	71.1	66.2
52.5°	214.4	165.0	91.5	59.0	57.8
55°	173.4	130.1	65.0	50.6	49.4
57.5°	137.3	101.2	47.0	42.2	41.0
60°	98.8	72.3	36.1	34.9	33.7
62.5°	65.0	49.4	28.9	27.7	27.7
65°	34.9	30.1	22.9	21.7	22.9
67.5°	14.5	16.9	16.9	18.1	18.1
70°	9.6	10.8	13.2	14.5	14.5
72.5°	7.2	8.4	9.6	10.8	10.8
75°	6.0	6.0	7.2	8.4	8.4
77.5°	3.6	4.8	4.8	6.0	7.2
80°	2.4	3.6	3.6	4.8	4.8
82.5°	1.2	2.4	2.4	3.6	3.6
85°	1.2	1.2	1.2	1.2	2.4
87.5°	0.0	0.0	0.0	0.0	1.2
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	14.02	15.28	14.39	15.59	15.91	7.53	8.79	7.90	9.10	9.42
	3H	13.97	15.08	14.35	15.41	15.78	8.31	9.42	8.69	9.75	10.11
	4H	13.92	14.95	14.32	15.30	15.69	8.51	9.54	8.91	9.89	10.27
	6H	13.85	14.79	14.27	15.16	15.56	8.65	9.59	9.06	9.96	10.36
	8H	13.81	14.70	14.24	15.09	15.50	8.68	9.58	9.12	9.97	10.37
	12H	13.76	14.62	14.20	15.00	15.43	8.70	9.55	9.13	9.94	10.37
4H	2H	13.87	14.90	14.27	15.25	15.63	7.79	8.82	8.19	9.17	9.55
	3H	13.85	14.69	14.27	15.09	15.50	8.70	9.53	9.11	9.94	10.34
	4H	13.80	14.54	14.24	14.96	15.41	8.97	9.71	9.40	10.13	10.57
	6H	13.74	14.38	14.21	14.83	15.30	9.18	9.82	9.64	10.26	10.73
	8H	13.69	14.28	14.16	14.73	15.21	9.24	9.83	9.71	10.28	10.75
	12H	13.64	14.17	14.13	14.65	15.13	9.28	9.80	9.76	10.28	10.76
8H	4H	13.69	14.28	14.16	14.73	15.20	8.95	9.54	9.42	9.99	10.46
	6H	13.62	14.11	14.13	14.61	15.09	9.21	9.70	9.72	10.20	10.68
	8H	13.57	14.01	14.10	14.52	15.02	9.32	9.76	9.84	10.27	10.77
	12H	13.53	13.92	14.05	14.42	14.99	9.39	9.78	9.91	10.27	10.85
12H	4H	13.64	14.16	14.13	14.65	15.12	8.91	9.43	9.40	9.92	10.39
	6H	13.57	14.00	14.09	14.52	15.01	9.17	9.61	9.70	10.13	10.62
	8H	13.54	13.92	14.05	14.42	14.99	9.31	9.70	9.83	10.19	10.77