

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: P1059429

Luminaire Tested: S123RDR-H1000D840-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059429  
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-H1000D840-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: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

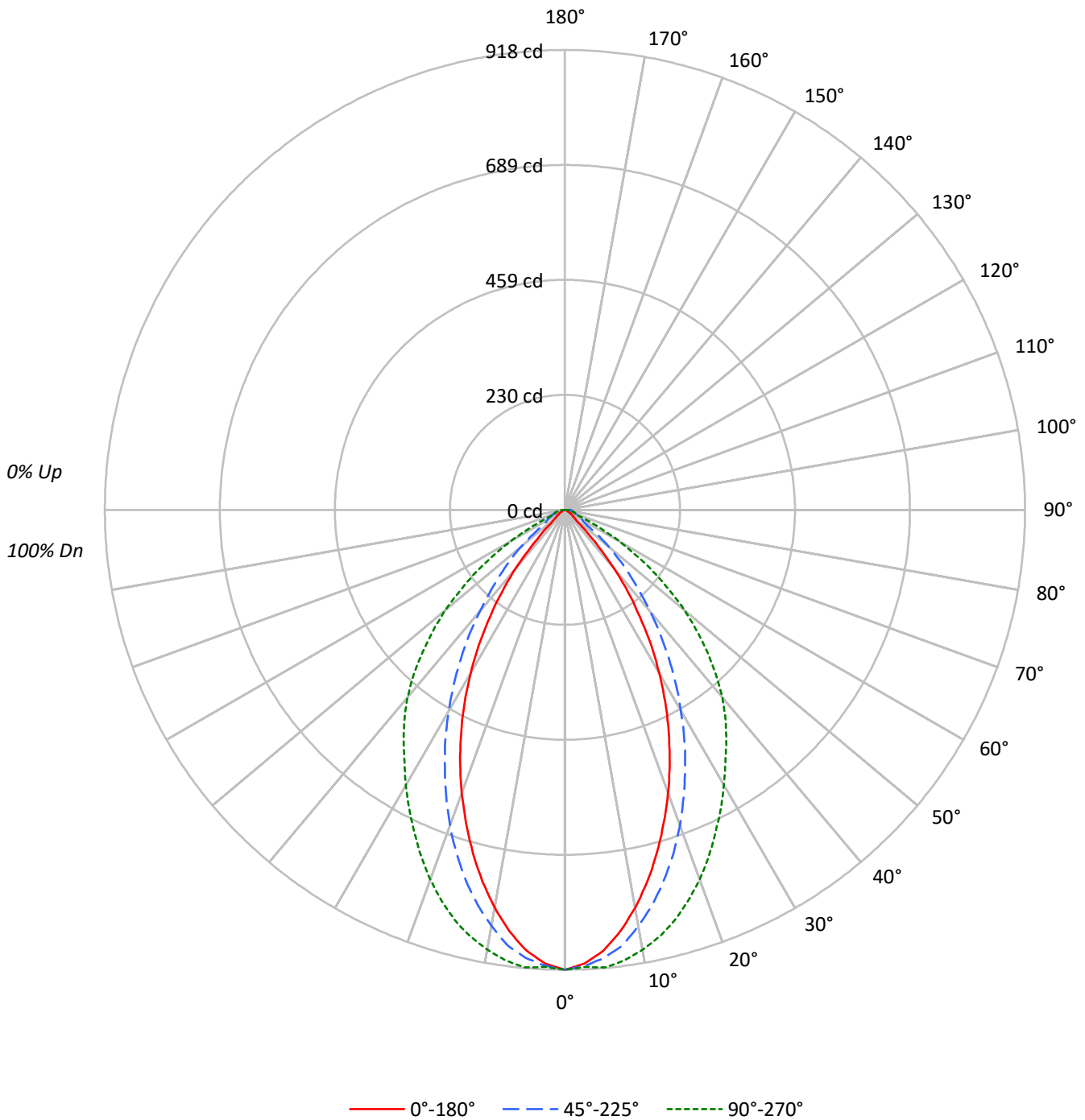
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1102.2 lumens  
Efficiency: N/A  
Efficacy: 35.3 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): 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	99	94	90	102	97	92	88	94	90	86	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°	10780	10780	10780
5°	10409	10579	10807
10°	9609	10055	10630
15°	8623	9297	10310
20°	7523	8381	9813
25°	6346	7346	9207
30°	5104	6281	8605
35°	3736	5171	8042
40°	2330	4031	7490
45°	882	3006	6671
50°	418	2072	5685
55°	321	1136	4395
60°	228	963	2889
65°	167	839	1206
70°	165	786	786
75°	218	821	821
80°	325	981	899
85°	647	1630	1307

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 6671 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.3	7.6
10°-20°	216.1	19.6
20°-30°	267.5	24.3
30°-40°	239.8	21.8
40°-50°	157.2	14.3
50°-60°	78.7	7.1
60°-70°	30.7	2.8
70°-80°	17.3	1.6
80°-90°	10.7	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°	567.9	51.5
0°-40°	807.7	73.3
0°-60°	1043.6	94.7
0°-90°	1102.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1102.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	918	918	918	918	918	
5°	883	898	898	907	917	82
15°	709	738	765	816	848	197
25°	490	520	567	648	711	224
35°	261	296	361	469	561	162
45°	53	86	181	310	402	51
55°	16	19	56	152	215	14
65°	6	18	30	40	43	6
75°	5	18	18	18	18	5
85°	5	12	12	12	10	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	918.0	918.0	918.0	918.0	918.0
2.5°	906.0	919.3	910.8	912.0	913.2
5°	883.1	897.5	897.5	907.2	916.8
7.5°	848.1	865.0	877.0	893.9	907.2
10°	805.9	826.4	843.3	873.4	891.5
12.5°	760.0	785.3	807.1	846.9	872.2
15°	709.3	738.3	764.8	815.5	848.1
17.5°	655.1	684.0	719.0	778.1	817.9
20°	602.0	630.9	670.7	737.1	785.3
22.5°	546.5	576.6	618.9	692.5	749.2
25°	489.8	519.9	567.0	647.8	710.6
27.5°	433.1	463.2	516.3	604.4	673.2
30°	376.4	406.5	463.2	557.3	634.6
32.5°	319.7	352.3	411.4	513.9	595.9
35°	260.6	295.6	360.7	469.3	561.0
37.5°	206.3	238.9	312.4	430.7	526.0
40°	152.0	187.0	263.0	393.3	488.6
42.5°	98.9	136.3	218.4	352.3	446.4
45°	53.1	85.7	181.0	310.0	401.7
47.5°	29.0	47.0	146.0	265.4	355.9
50°	22.9	26.5	113.4	226.8	311.2
52.5°	19.3	21.7	80.8	190.6	261.8
55°	15.7	19.3	55.5	152.0	214.7
57.5°	13.3	16.9	43.4	118.2	167.7
60°	9.7	14.5	41.0	86.9	123.0
62.5°	7.2	15.7	36.2	60.3	80.8
65°	6.0	18.1	30.2	39.8	43.4
67.5°	4.8	19.3	26.5	25.3	25.3
70°	4.8	18.1	22.9	21.7	22.9
72.5°	4.8	19.3	20.5	19.3	20.5
75°	4.8	18.1	18.1	18.1	18.1
77.5°	4.8	16.9	16.9	15.7	15.7
80°	4.8	14.5	14.5	14.5	13.3
82.5°	4.8	13.3	13.3	13.3	10.9
85°	4.8	12.1	12.1	12.1	9.7
87.5°	3.6	10.9	12.1	10.9	7.2
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	0.62	1.88	0.99	2.19	2.51	14.86	16.12	15.23	16.43	16.75
	3H	2.95	4.06	3.33	4.39	4.76	14.94	16.06	15.33	16.39	16.75
	4H	4.05	5.08	4.45	5.43	5.82	15.02	16.06	15.43	16.41	16.79
	6H	5.04	5.99	5.45	6.36	6.75	15.13	16.08	15.54	16.45	16.84
	8H	5.52	6.42	5.95	6.81	7.21	15.19	16.08	15.62	16.47	16.88
	12H	6.07	6.93	6.51	7.31	7.75	15.27	16.13	15.70	16.51	16.94
4H	2H	3.88	4.91	4.28	5.26	5.64	14.72	15.75	15.12	16.10	16.49
	3H	6.19	7.03	6.60	7.44	7.84	14.89	15.74	15.31	16.14	16.55
	4H	7.56	8.31	7.99	8.73	9.18	15.05	15.80	15.48	16.22	16.67
	6H	8.64	9.29	9.11	9.74	10.21	15.27	15.92	15.74	16.37	16.84
	8H	9.10	9.71	9.57	10.16	10.63	15.40	16.01	15.87	16.46	16.93
	12H	9.59	10.13	10.08	10.61	11.09	15.57	16.11	16.06	16.60	17.07
8H	4H	8.53	9.14	9.00	9.59	10.06	15.04	15.65	15.51	16.10	16.57
	6H	10.05	10.55	10.56	11.05	11.53	15.38	15.88	15.89	16.38	16.86
	8H	10.83	11.28	11.35	11.79	12.29	15.62	16.07	16.14	16.58	17.07
	12H	11.63	12.03	12.15	12.53	13.10	15.95	16.35	16.47	16.85	17.42
12H	4H	8.71	9.25	9.20	9.73	10.21	15.03	15.57	15.52	16.05	16.52
	6H	10.37	10.82	10.89	11.34	11.83	15.40	15.85	15.93	16.37	16.86
	8H	11.33	11.73	11.84	12.22	12.79	15.71	16.11	16.23	16.61	17.18