

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: P1059652

Luminaire Tested: S123RDR-H560D830-X4F0-XX-UDD-BVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059652  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-30)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H560D830-X4F0-XX-UDD-BVL-B  
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

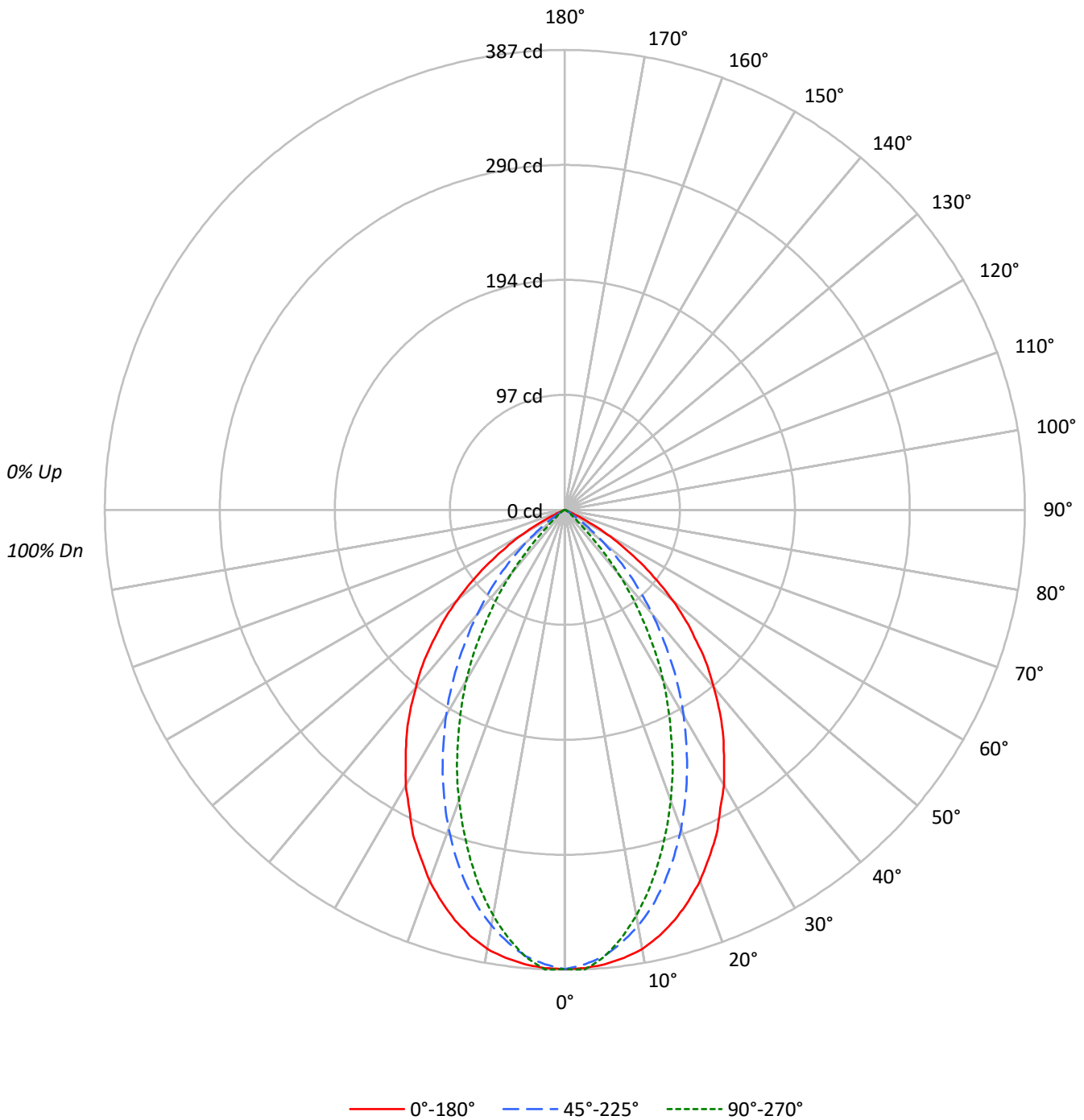
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 441.0 lumens  
Efficiency: N/A  
Efficacy: 25.3 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 0.81 / 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				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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	83	80	78	76
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63
6	83	73	66	61	81	72	66	61	70	65	60	69	64	60	67	63	60	58
7	78	68	61	56	77	67	60	56	66	60	56	64	59	55	63	58	55	53
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49
9	70	59	52	48	68	58	52	48	57	52	47	56	51	47	55	51	47	46
10	66	55	49	44	65	55	48	44	54	48	44	53	48	44	52	47	44	42

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

	0°	45°	90°
0°	4538	4538	4538
5°	4526	4446	4453
10°	4475	4238	4134
15°	4344	3942	3715
20°	4154	3570	3251
25°	3912	3154	2749
30°	3628	2709	2245
35°	3329	2239	1669
40°	2986	1755	1068
45°	2604	1282	445
50°	2161	762	170
55°	1593	319	127
60°	965	117	73
65°	258	69	33
70°	0	21	21
75°	0	0	27
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2604 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.6	8.1
10°-20°	91.8	20.8
20°-30°	114.4	25.9
30°-40°	102.3	23.2
40°-50°	64.6	14.6
50°-60°	27.0	6.1
60°-70°	5.1	1.1
70°-80°	0.2	0.0
80°-90°	0.0	0.0
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°	241.9	54.8
0°-40°	344.2	78.0
0°-60°	435.8	98.8
0°-90°	441.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	441.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	386	386	386	386	386	
5°	384	383	377	378	378	36
15°	357	348	324	311	306	100
25°	302	278	243	222	212	138
35°	232	198	156	128	116	145
45°	157	122	77	41	27	121
55°	78	54	16	6	6	70
65°	9	7	2	1	1	13
75°	0	0	0	0	1	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	386.5	386.5	386.5	386.5	386.5
2.5°	385.9	386.5	382.8	386.5	387.1
5°	384.0	383.4	377.2	378.4	377.8
7.5°	380.3	378.4	367.2	364.7	363.5
10°	375.3	370.3	355.4	349.2	346.7
12.5°	367.2	360.4	341.1	331.1	327.4
15°	357.3	348.5	324.3	310.6	305.6
17.5°	345.4	333.0	305.6	290.7	283.2
20°	332.4	314.9	285.7	267.6	260.2
22.5°	316.8	297.5	264.5	245.2	237.1
25°	301.9	277.6	243.4	222.2	212.2
27.5°	283.2	257.7	221.0	199.2	188.6
30°	267.6	238.4	199.8	175.5	165.6
32.5°	249.0	218.5	178.0	151.2	141.9
35°	232.2	198.5	156.2	128.2	116.4
37.5°	214.1	179.3	134.4	105.2	94.0
40°	194.8	160.0	114.5	82.2	69.7
42.5°	177.4	140.7	94.6	61.0	48.5
45°	156.8	122.0	77.2	41.1	26.8
47.5°	138.2	104.6	58.5	23.0	14.3
50°	118.3	86.5	41.7	11.8	9.3
52.5°	97.7	69.1	27.4	8.1	7.5
55°	77.8	53.5	15.6	6.2	6.2
57.5°	58.5	38.6	8.1	5.0	4.4
60°	41.1	25.5	5.0	3.7	3.1
62.5°	23.7	14.9	3.7	2.5	2.5
65°	9.3	6.8	2.5	1.2	1.2
67.5°	0.6	1.9	1.2	0.6	0.6
70°	0.0	0.0	0.6	0.6	0.6
72.5°	0.0	0.0	0.6	0.6	0.6
75°	0.0	0.0	0.0	0.0	0.6
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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	10.45	11.62	10.81	11.94	12.25	0.00	0.00	0.00	0.00	0.00
	3H	10.29	11.32	10.67	11.65	12.02	0.00	0.00	0.00	0.00	0.00
	4H	10.20	11.16	10.61	11.51	11.89	0.00	0.00	0.00	0.00	0.00
	6H	10.11	10.98	10.53	11.35	11.75	0.00	0.00	0.00	0.00	0.00
	8H	10.06	10.88	10.49	11.27	11.68	0.00	0.00	0.00	0.00	0.00
	12H	10.01	10.79	10.44	11.18	11.61	0.00	0.00	0.00	0.00	0.00
4H	2H	10.21	11.16	10.61	11.51	11.90	0.00	0.00	0.00	0.00	0.00
	3H	10.04	10.81	10.46	11.22	11.62	0.00	0.00	0.00	0.00	0.00
	4H	9.94	10.62	10.37	11.04	11.49	0.00	0.00	0.00	0.00	0.00
	6H	9.84	10.42	10.31	10.87	11.34	0.00	0.00	0.00	0.00	0.00
	8H	9.77	10.32	10.25	10.77	11.24	0.00	0.00	0.00	0.00	0.00
	12H	9.72	10.19	10.21	10.68	11.16	0.00	0.00	0.00	0.00	0.00
8H	4H	9.78	10.32	10.25	10.77	11.24	0.00	0.00	0.00	0.00	0.00
	6H	9.66	10.10	10.16	10.60	11.08	0.00	0.00	0.00	0.00	0.00
	8H	9.59	9.98	10.11	10.50	11.00	0.00	0.00	0.00	0.00	0.00
	12H	9.53	9.88	10.05	10.38	10.96	0.00	0.00	0.00	0.00	0.00
12H	4H	9.72	10.19	10.21	10.68	11.16	0.00	0.00	0.00	0.00	0.00
	6H	9.59	9.98	10.11	10.50	11.00	0.00	0.00	0.00	0.00	0.00
	8H	9.53	9.88	10.05	10.38	10.96	0.00	0.00	0.00	0.00	0.00