

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: P1059679

Luminaire Tested: S123RDR-H560D850-X4F0-XX-UDD-BVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059679  
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-H560D850-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: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

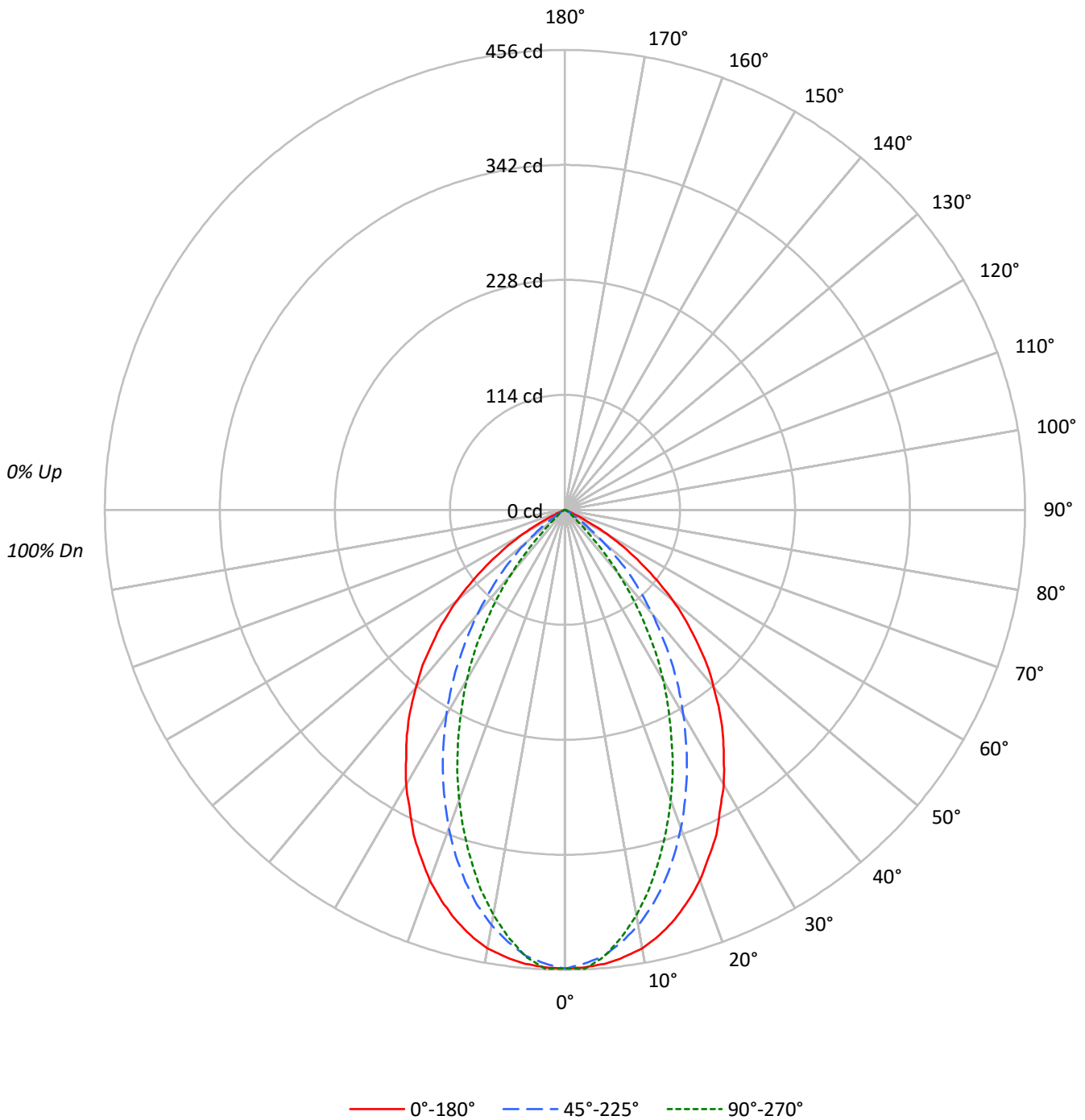
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 518.9 lumens  
Efficiency: N/A  
Efficacy: 29.8 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	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	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92				92
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84				84
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	83	80	78	76				76
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69				69
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63				63
6	83	73	66	61	81	72	66	61	70	65	60	69	64	60	67	63	60	58				58
7	78	68	61	56	77	67	60	56	66	60	56	64	59	55	63	58	55	53				53
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49				49
9	70	59	52	48	68	58	52	48	57	52	47	56	51	47	55	51	47	46				46
10	66	55	49	44	65	55	48	44	54	48	44	53	48	44	52	47	44	42				42

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

	0°	45°	90°
0°	5340	5340	5340
5°	5325	5231	5239
10°	5265	4986	4864
15°	5109	4638	4372
20°	4887	4200	3825
25°	4602	3709	3235
30°	4270	3188	2641
35°	3916	2635	1962
40°	3513	2065	1257
45°	3064	1508	523
50°	2541	897	201
55°	1873	375	149
60°	1134	139	87
65°	306	81	42
70°	0	24	24
75°	0	0	32
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3064 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.9	8.1
10°-20°	108.0	20.8
20°-30°	134.7	25.9
30°-40°	120.4	23.2
40°-50°	76.0	14.6
50°-60°	31.8	6.1
60°-70°	6.0	1.2
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°	284.6	54.8
0°-40°	405.0	78.0
0°-60°	512.7	98.8
0°-90°	518.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	518.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	455	455	455	455	455	
5°	452	451	444	445	444	43
15°	420	410	382	365	360	118
25°	355	327	286	261	250	163
35°	273	234	184	151	137	170
45°	184	144	91	48	32	142
55°	92	63	18	7	7	82
65°	11	8	3	2	2	15
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°	454.8	454.8	454.8	454.8	454.8
2.5°	454.0	454.8	450.4	454.8	455.5
5°	451.8	451.1	443.8	445.2	444.5
7.5°	447.4	445.2	432.1	429.1	427.7
10°	441.6	435.7	418.2	410.8	407.9
12.5°	432.1	424.0	401.3	389.6	385.2
15°	420.3	410.1	381.5	365.4	359.6
17.5°	406.4	391.8	359.6	342.0	333.2
20°	391.1	370.6	336.1	314.9	306.1
22.5°	372.7	350.0	311.2	288.5	279.0
25°	355.2	326.6	286.3	261.4	249.7
27.5°	333.2	303.2	260.0	234.3	221.9
30°	314.9	280.5	235.1	206.5	194.8
32.5°	292.9	257.0	209.4	178.0	167.0
35°	273.2	233.6	183.8	150.9	136.9
37.5°	251.9	210.9	158.2	123.8	110.6
40°	229.2	188.2	134.7	96.7	82.0
42.5°	208.7	165.5	111.3	71.8	57.1
45°	184.5	143.5	90.8	48.3	31.5
47.5°	162.6	123.0	68.8	27.1	16.8
50°	139.1	101.8	49.1	13.9	11.0
52.5°	115.0	81.3	32.2	9.5	8.8
55°	91.5	63.0	18.3	7.3	7.3
57.5°	68.8	45.4	9.5	5.9	5.1
60°	48.3	30.0	5.9	4.4	3.7
62.5°	27.8	17.6	4.4	2.9	2.9
65°	11.0	8.1	2.9	1.5	1.5
67.5°	0.7	2.2	1.5	0.7	0.7
70°	0.0	0.0	0.7	0.7	0.7
72.5°	0.0	0.0	0.7	0.7	0.7
75°	0.0	0.0	0.0	0.0	0.7
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	11.01	12.19	11.37	12.50	12.81	0.00	0.00	0.00	0.00	0.00
	3H	10.85	11.88	11.23	12.21	12.58	0.00	0.00	0.00	0.00	0.00
	4H	10.76	11.72	11.17	12.07	12.46	0.00	0.00	0.00	0.00	0.00
	6H	10.67	11.54	11.09	11.92	12.31	0.00	0.00	0.00	0.00	0.00
	8H	10.62	11.44	11.05	11.84	12.24	0.00	0.00	0.00	0.00	0.00
	12H	10.57	11.36	11.00	11.74	12.17	0.00	0.00	0.00	0.00	0.00
4H	2H	10.77	11.72	11.17	12.07	12.46	0.00	0.00	0.00	0.00	0.00
	3H	10.60	11.37	11.02	11.78	12.18	0.00	0.00	0.00	0.00	0.00
	4H	10.50	11.18	10.94	11.60	12.05	0.00	0.00	0.00	0.00	0.00
	6H	10.40	10.99	10.87	11.44	11.91	0.00	0.00	0.00	0.00	0.00
	8H	10.34	10.88	10.81	11.33	11.80	0.00	0.00	0.00	0.00	0.00
	12H	10.28	10.76	10.77	11.24	11.72	0.00	0.00	0.00	0.00	0.00
8H	4H	10.34	10.88	10.81	11.33	11.80	0.00	0.00	0.00	0.00	0.00
	6H	10.22	10.66	10.73	11.16	11.65	0.00	0.00	0.00	0.00	0.00
	8H	10.15	10.55	10.68	11.06	11.56	0.00	0.00	0.00	0.00	0.00
	12H	10.09	10.44	10.61	10.94	11.52	0.00	0.00	0.00	0.00	0.00
12H	4H	10.28	10.76	10.77	11.24	11.72	0.00	0.00	0.00	0.00	0.00
	6H	10.15	10.55	10.68	11.06	11.56	0.00	0.00	0.00	0.00	0.00
	8H	10.09	10.44	10.61	10.94	11.52	0.00	0.00	0.00	0.00	0.00