

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: P1059654

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

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059654  
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-H560D830-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: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

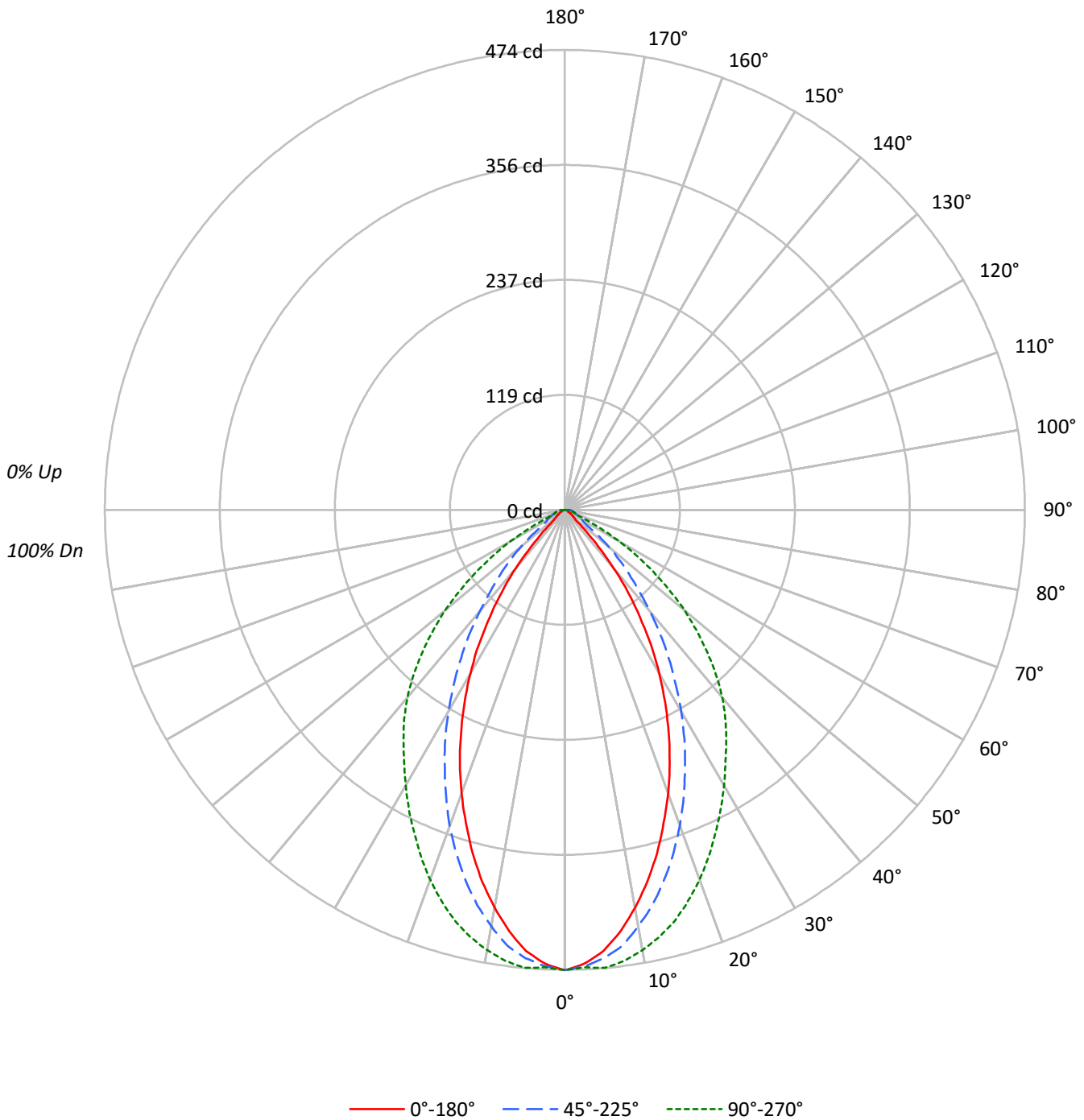
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 569.6 lumens  
Efficiency: N/A  
Efficacy: 32.7 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): 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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90				90
2	105	99	94	90	102	97	92	88	94	90	86	91	87	85	88	85	83	81				81
3	98	90	84	79	96	89	83	79	86	81	77	83	79	76	81	78	75	73				73
4	92	83	76	71	90	81	75	70	79	74	70	77	72	69	75	71	68	66				66
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60				60
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55				55
7	76	65	58	53	75	65	58	53	63	57	53	62	56	52	61	56	52	50				50
8	72	61	54	49	70	60	53	49	59	53	49	58	52	48	57	52	48	47				47
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43				43
10	64	53	46	42	63	53	46	42	52	46	42	51	45	42	50	45	42	40				40

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

	0°	45°	90°
0°	5571	5571	5571
5°	5379	5467	5585
10°	4965	5196	5493
15°	4457	4804	5328
20°	3888	4331	5071
25°	3279	3796	4758
30°	2637	3246	4446
35°	1931	2672	4156
40°	1203	2083	3870
45°	455	1553	3447
50°	216	1071	2937
55°	166	588	2272
60°	117	498	1494
65°	86	433	622
70°	86	405	405
75°	113	426	426
80°	169	507	467
85°	337	835	674

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 3447 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.5	7.6
10°-20°	111.7	19.6
20°-30°	138.2	24.3
30°-40°	123.9	21.8
40°-50°	81.2	14.3
50°-60°	40.7	7.1
60°-70°	15.9	2.8
70°-80°	8.9	1.6
80°-90°	5.5	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°	293.4	51.5
0°-40°	417.4	73.3
0°-60°	539.3	94.7
0°-90°	569.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	569.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	474	474	474	474	474	
5°	456	464	464	469	474	42
15°	367	382	395	421	438	102
25°	253	269	293	335	367	116
35°	135	153	186	242	290	84
45°	27	44	94	160	208	26
55°	8	10	29	78	111	7
65°	3	9	16	21	22	3
75°	2	9	9	9	9	3
85°	2	6	6	6	5	2
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	474.4	474.4	474.4	474.4	474.4
2.5°	468.2	475.0	470.7	471.3	471.9
5°	456.3	463.8	463.8	468.8	473.8
7.5°	438.3	447.0	453.2	461.9	468.8
10°	416.4	427.0	435.8	451.3	460.7
12.5°	392.7	405.8	417.1	437.6	450.7
15°	366.6	381.5	395.2	421.4	438.3
17.5°	338.5	353.5	371.5	402.1	422.7
20°	311.1	326.0	346.6	380.9	405.8
22.5°	282.4	298.0	319.8	357.8	387.1
25°	253.1	268.7	293.0	334.8	367.2
27.5°	223.8	239.4	266.8	312.3	347.9
30°	194.5	210.1	239.4	288.0	327.9
32.5°	165.2	182.0	212.6	265.6	308.0
35°	134.7	152.7	186.4	242.5	289.9
37.5°	106.6	123.4	161.5	222.6	271.8
40°	78.5	96.6	135.9	203.2	252.5
42.5°	51.1	70.4	112.8	182.0	230.7
45°	27.4	44.3	93.5	160.2	207.6
47.5°	15.0	24.3	75.4	137.1	183.9
50°	11.8	13.7	58.6	117.2	160.8
52.5°	10.0	11.2	41.8	98.5	135.3
55°	8.1	10.0	28.7	78.5	111.0
57.5°	6.9	8.7	22.4	61.1	86.7
60°	5.0	7.5	21.2	44.9	63.6
62.5°	3.7	8.1	18.7	31.2	41.8
65°	3.1	9.4	15.6	20.6	22.4
67.5°	2.5	10.0	13.7	13.1	13.1
70°	2.5	9.4	11.8	11.2	11.8
72.5°	2.5	10.0	10.6	10.0	10.6
75°	2.5	9.4	9.4	9.4	9.4
77.5°	2.5	8.7	8.7	8.1	8.1
80°	2.5	7.5	7.5	7.5	6.9
82.5°	2.5	6.9	6.9	6.9	5.6
85°	2.5	6.2	6.2	6.2	5.0
87.5°	1.9	5.6	6.2	5.6	3.7
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	0.20	12.57	13.83	12.94	14.14	14.46
	3H	0.66	1.77	1.04	2.10	2.47	12.65	13.76	13.03	14.09	14.46
	4H	1.77	2.81	2.18	3.16	3.54	12.73	13.77	13.14	14.12	14.50
	6H	2.76	3.71	3.18	4.08	4.47	12.84	13.79	13.25	14.16	14.55
	8H	3.24	4.14	3.68	4.53	4.94	12.89	13.79	13.33	14.18	14.59
	12H	3.80	4.66	4.23	5.04	5.47	12.98	13.83	13.41	14.22	14.65
4H	2H	1.57	2.61	1.98	2.96	3.34	12.43	13.46	12.83	13.81	14.20
	3H	3.90	4.74	4.31	5.15	5.55	12.60	13.45	13.02	13.85	14.26
	4H	5.28	6.03	5.71	6.45	6.90	12.76	13.51	13.19	13.93	14.38
	6H	6.36	7.01	6.82	7.46	7.93	12.98	13.63	13.45	14.08	14.55
	8H	6.82	7.43	7.29	7.88	8.35	13.11	13.72	13.58	14.16	14.64
	12H	7.31	7.85	7.80	8.33	8.81	13.28	13.82	13.77	14.30	14.78
8H	4H	6.25	6.86	6.72	7.31	7.78	12.75	13.36	13.22	13.81	14.28
	6H	7.77	8.27	8.27	8.77	9.25	13.09	13.59	13.60	14.09	14.57
	8H	8.55	9.00	9.07	9.51	10.01	13.33	13.78	13.85	14.29	14.78
	12H	9.35	9.74	9.86	10.24	10.81	13.66	14.06	14.18	14.55	15.13
12H	4H	6.42	6.96	6.91	7.45	7.92	12.74	13.28	13.23	13.76	14.23
	6H	8.09	8.53	8.61	9.05	9.54	13.11	13.56	13.64	14.08	14.57
	8H	9.04	9.44	9.56	9.94	10.51	13.42	13.82	13.94	14.32	14.89