

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: P1059427

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

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059427  
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-H1000D840-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: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

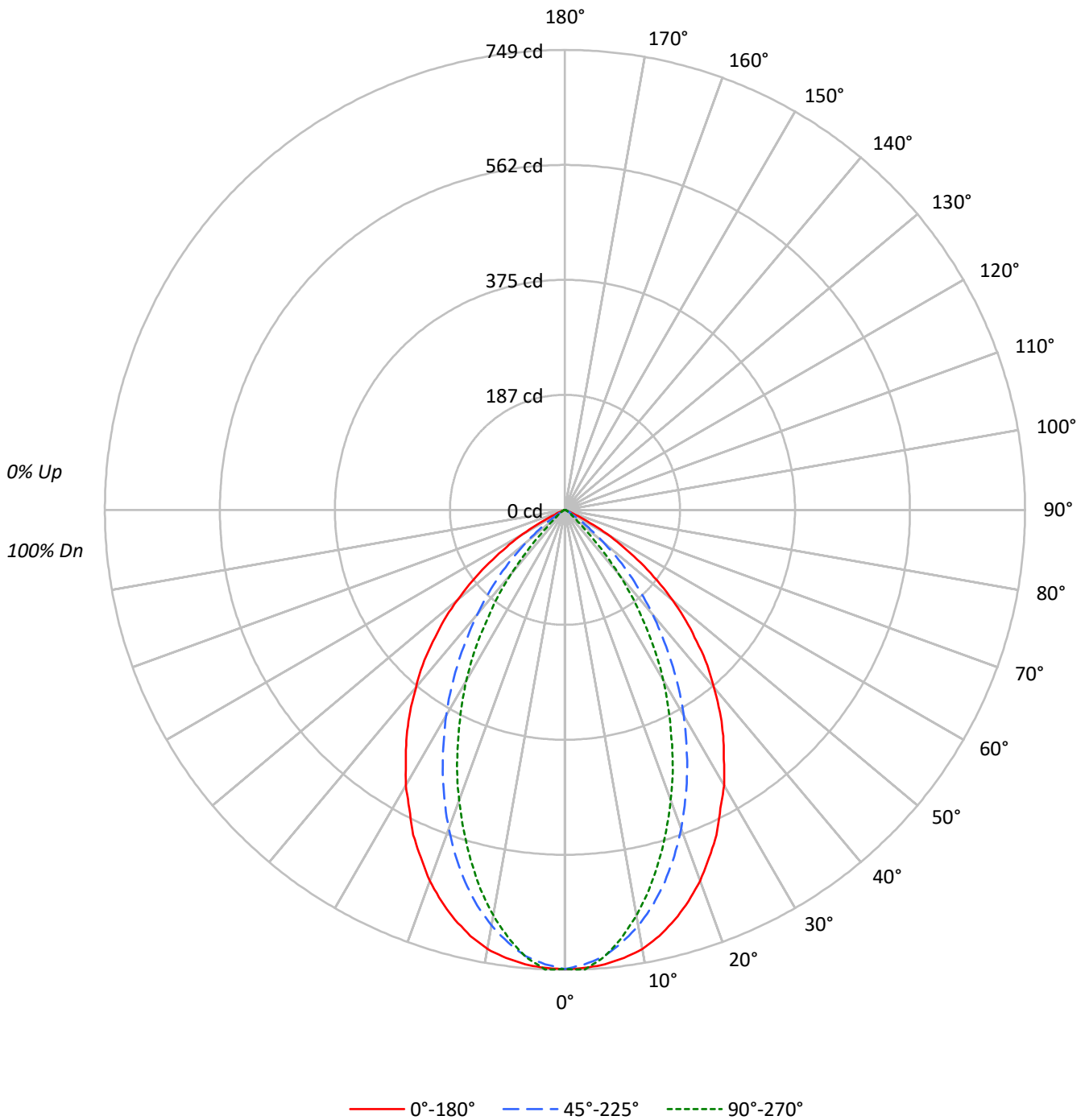
Lumens per Lamp: N/A  
Luminaire Lumens: 853.5 lumens  
Efficiency: N/A  
Efficacy: 27.4 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 0.81 / 0.94  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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	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°	8782	8782	8782
5°	8759	8604	8618
10°	8660	8200	8000
15°	8404	7628	7189
20°	8037	6908	6291
25°	7568	6101	5321
30°	7022	5242	4344
35°	6439	4333	3228
40°	5779	3397	2068
45°	5040	2479	860
50°	4180	1474	331
55°	3083	616	246
60°	1867	225	141
65°	503	133	67
70°	0	41	41
75°	0	0	54
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5040 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.9	8.1
10°-20°	177.7	20.8
20°-30°	221.5	25.9
30°-40°	198.0	23.2
40°-50°	125.0	14.6
50°-60°	52.3	6.1
60°-70°	9.8	1.2
70°-80°	0.3	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°	468.0	54.8
0°-40°	666.0	78.0
0°-60°	843.3	98.8
0°-90°	853.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	853.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	743	742	730	732	731	70
15°	691	674	628	601	591	194
25°	584	537	471	430	411	267
35°	449	384	302	248	225	280
45°	304	236	149	80	52	234
55°	151	104	30	12	12	135
65°	18	13	5	2	2	25
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°	747.9	747.9	747.9	747.9	747.9
2.5°	746.7	747.9	740.7	747.9	749.1
5°	743.1	741.9	729.9	732.3	731.1
7.5°	735.9	732.3	710.6	705.8	703.4
10°	726.3	716.6	687.7	675.7	670.9
12.5°	710.6	697.4	660.0	640.8	633.5
15°	691.3	674.5	627.5	601.0	591.4
17.5°	668.5	644.4	591.4	562.5	548.0
20°	643.2	609.4	552.8	517.9	503.4
22.5°	613.0	575.7	511.9	474.5	458.9
25°	584.1	537.2	470.9	430.0	410.7
27.5°	548.0	498.6	427.6	385.4	364.9
30°	517.9	461.3	386.6	339.6	320.4
32.5°	481.8	422.8	344.5	292.7	274.6
35°	449.2	384.2	302.3	248.1	225.2
37.5°	414.3	346.9	260.2	203.5	181.9
40°	377.0	309.5	221.6	159.0	134.9
42.5°	343.3	272.2	183.1	118.0	93.9
45°	303.5	236.1	149.3	79.5	51.8
47.5°	267.4	202.3	113.2	44.6	27.7
50°	228.8	167.4	80.7	22.9	18.1
52.5°	189.1	133.7	53.0	15.7	14.5
55°	150.6	103.6	30.1	12.0	12.0
57.5°	113.2	74.7	15.7	9.6	8.4
60°	79.5	49.4	9.6	7.2	6.0
62.5°	45.8	28.9	7.2	4.8	4.8
65°	18.1	13.2	4.8	2.4	2.4
67.5°	1.2	3.6	2.4	1.2	1.2
70°	0.0	0.0	1.2	1.2	1.2
72.5°	0.0	0.0	1.2	1.2	1.2
75°	0.0	0.0	0.0	0.0	1.2
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	12.74	13.92	13.11	14.23	14.55	0.00	0.00	0.00	0.00	0.00
	3H	12.58	13.61	12.96	13.94	14.31	0.00	0.00	0.00	0.00	0.00
	4H	12.50	13.45	12.90	13.80	14.19	0.00	0.00	0.00	0.00	0.00
	6H	12.40	13.27	12.82	13.65	14.04	0.00	0.00	0.00	0.00	0.00
	8H	12.35	13.18	12.79	13.57	13.97	0.00	0.00	0.00	0.00	0.00
	12H	12.30	13.09	12.74	13.47	13.90	0.00	0.00	0.00	0.00	0.00
4H	2H	12.50	13.45	12.91	13.81	14.19	0.00	0.00	0.00	0.00	0.00
	3H	12.34	13.10	12.75	13.51	13.91	0.00	0.00	0.00	0.00	0.00
	4H	12.23	12.91	12.67	13.33	13.78	0.00	0.00	0.00	0.00	0.00
	6H	12.13	12.72	12.60	13.17	13.64	0.00	0.00	0.00	0.00	0.00
	8H	12.07	12.61	12.54	13.06	13.54	0.00	0.00	0.00	0.00	0.00
	12H	12.01	12.49	12.50	12.97	13.45	0.00	0.00	0.00	0.00	0.00
8H	4H	12.07	12.61	12.54	13.06	13.54	0.00	0.00	0.00	0.00	0.00
	6H	11.95	12.39	12.46	12.89	13.38	0.00	0.00	0.00	0.00	0.00
	8H	11.88	12.28	12.41	12.80	13.29	0.00	0.00	0.00	0.00	0.00
	12H	11.83	12.18	12.34	12.67	13.25	0.00	0.00	0.00	0.00	0.00
12H	4H	12.01	12.49	12.50	12.97	13.45	0.00	0.00	0.00	0.00	0.00
	6H	11.88	12.28	12.41	12.80	13.29	0.00	0.00	0.00	0.00	0.00
	8H	11.83	12.18	12.34	12.67	13.25	0.00	0.00	0.00	0.00	0.00