

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: P1060651

Luminaire Tested: S124RDR-H1020D850-X4F0-XX-UDD-BVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060651  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-39)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H1020D850-X4F0-XX-UDD-BVL-B  
Description: DEFINE 4 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: -

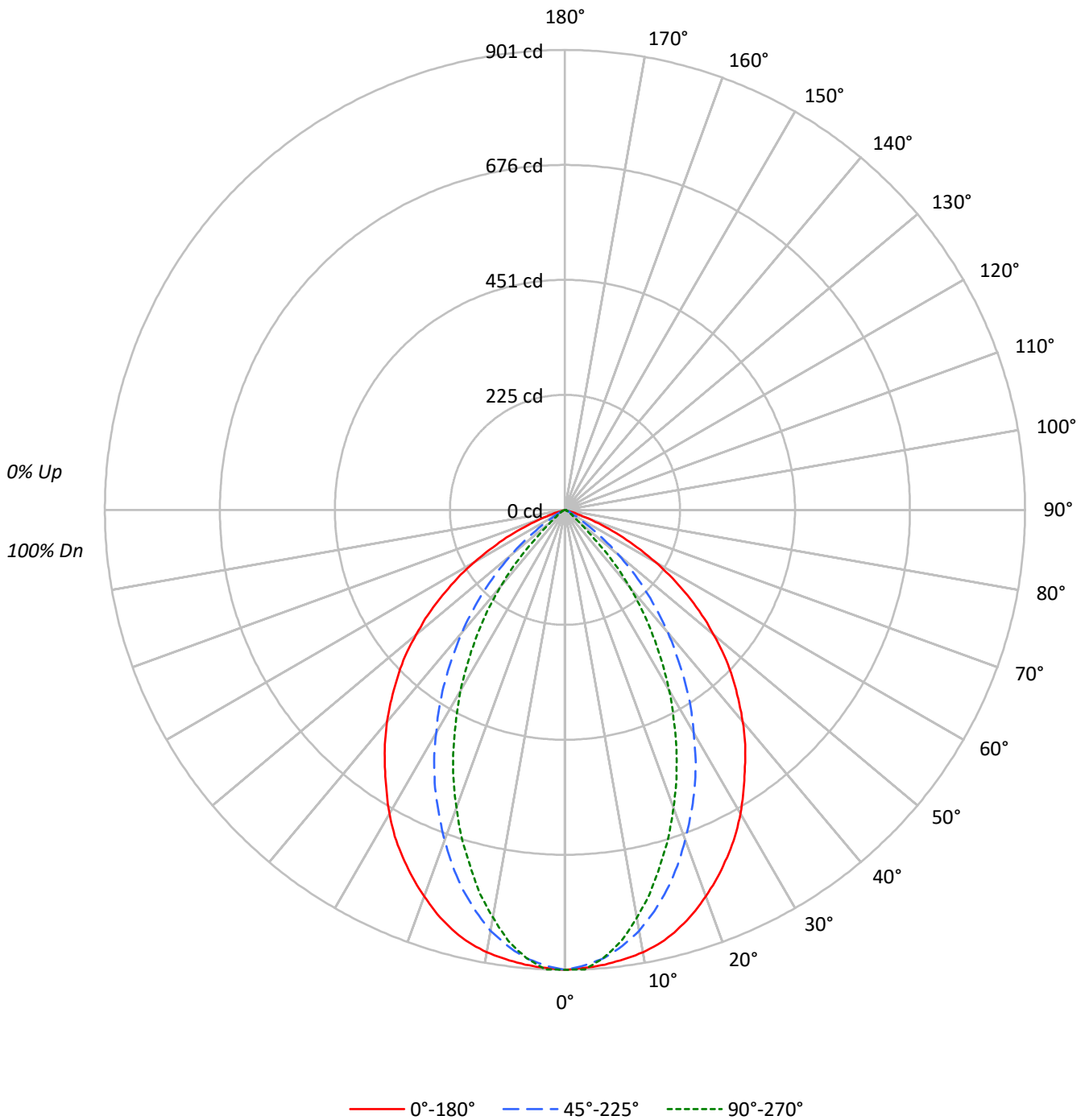
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1176.5 lumens  
Efficiency: N/A  
Efficacy: 37.7 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 0.83 / 0.98  
Luminous Opening: Rectangular (W 0.31' 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	109	106	103	110	107	104	102	103	101	99	99	97	96	96	94	93	91
2	105	99	95	90	103	98	93	89	94	91	87	91	88	86	88	86	84	82
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74
4	92	83	76	71	90	82	76	71	79	74	70	77	73	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	56	55
7	76	65	58	53	74	64	57	53	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	47	46
9	67	56	49	44	66	56	49	44	54	48	44	54	48	44	53	48	44	42
10	64	52	46	41	63	52	45	41	51	45	41	50	45	41	49	44	41	39

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

	0°	45°	90°
0°	7759	7759	7759
5°	7732	7620	7608
10°	7696	7320	7093
15°	7592	6872	6420
20°	7386	6312	5692
25°	7138	5716	4911
30°	6836	5010	4066
35°	6461	4298	3162
40°	6089	3527	2210
45°	5644	2712	1094
50°	5093	1831	366
55°	4399	938	254
60°	3520	336	179
65°	2415	185	79
70°	1083	98	65
75°	0	43	43
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5644 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.2	7.1
10°-20°	218.1	18.5
20°-30°	282.4	24.0
30°-40°	268.3	22.8
40°-50°	190.0	16.1
50°-60°	97.5	8.3
60°-70°	34.1	2.9
70°-80°	2.9	0.3
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°	583.7	49.6
0°-40°	852.0	72.4
0°-60°	1139.5	96.9
0°-90°	1176.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1176.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	901	901	901	901	901	
5°	894	896	882	882	880	85
15°	852	826	771	734	720	239
25°	751	693	602	538	517	345
35°	615	525	409	329	301	385
45°	464	357	223	128	90	357
55°	293	193	62	18	17	262
65°	118	57	9	5	4	118
75°	0	1	1	1	1	10
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°	901.0	901.0	901.0	901.0	901.0
2.5°	898.4	901.0	893.2	899.7	901.0
5°	894.5	895.8	881.5	881.5	880.2
7.5°	888.0	885.4	862.0	852.9	851.6
10°	880.2	871.1	837.2	817.7	811.2
12.5°	868.5	851.6	806.0	777.3	769.5
15°	851.6	825.5	770.8	734.4	720.1
17.5°	830.7	796.9	731.8	687.5	673.2
20°	806.0	763.0	688.8	639.3	621.1
22.5°	780.0	730.5	644.5	588.5	570.3
25°	751.3	692.7	601.6	537.8	516.9
27.5°	721.4	652.3	554.7	488.3	460.9
30°	687.5	612.0	503.9	434.9	408.9
32.5°	651.0	567.7	458.3	384.1	352.9
35°	614.6	524.7	408.9	329.4	300.8
37.5°	579.4	484.4	359.4	276.0	248.7
40°	541.7	440.1	313.8	227.9	196.6
42.5°	502.6	397.1	266.9	178.4	144.5
45°	463.5	356.8	222.7	127.6	89.8
47.5°	424.5	313.8	179.7	80.7	48.2
50°	380.2	272.1	136.7	43.0	27.3
52.5°	338.5	233.1	97.7	24.7	20.8
55°	293.0	192.7	62.5	18.2	16.9
57.5°	250.0	153.6	35.2	14.3	13.0
60°	204.4	118.5	19.5	11.7	10.4
62.5°	158.9	85.9	13.0	7.8	6.5
65°	118.5	57.3	9.1	5.2	3.9
67.5°	78.1	32.6	6.5	2.6	2.6
70°	43.0	15.6	3.9	2.6	2.6
72.5°	15.6	5.2	2.6	1.3	1.3
75°	0.0	1.3	1.3	1.3	1.3
77.5°	0.0	0.0	0.0	0.0	1.3
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	15.65	16.90	16.01	17.21	17.53	0.00	0.00	0.00	0.00	0.19
	3H	15.92	17.03	16.30	17.36	17.73	0.00	0.00	0.00	0.00	0.18
	4H	15.85	16.87	16.25	17.22	17.61	0.00	0.00	0.00	0.00	0.12
	6H	15.76	16.70	16.18	17.07	17.47	0.00	0.00	0.00	0.00	0.01
	8H	15.71	16.60	16.15	16.99	17.40	0.00	0.00	0.00	0.00	0.00
	12H	15.67	16.51	16.10	16.90	17.33	0.00	0.00	0.00	0.00	0.00
4H	2H	15.42	16.44	15.82	16.80	17.18	0.00	0.00	0.00	0.14	0.52
	3H	15.70	16.53	16.12	16.94	17.34	0.00	0.00	0.00	0.13	0.54
	4H	15.61	16.35	16.05	16.77	17.21	0.00	0.00	0.00	0.04	0.49
	6H	15.52	16.15	15.99	16.60	17.07	0.00	0.00	0.00	0.00	0.37
	8H	15.46	16.05	15.93	16.50	16.97	0.00	0.00	0.00	0.00	0.27
	12H	15.41	15.93	15.90	16.41	16.89	0.00	0.00	0.00	0.00	0.19
8H	4H	15.46	16.05	15.93	16.50	16.97	0.00	0.00	0.00	0.00	0.45
	6H	15.35	15.83	15.86	16.33	16.81	0.00	0.00	0.00	0.00	0.32
	8H	15.29	15.71	15.81	16.23	16.73	0.00	0.00	0.00	0.00	0.23
	12H	15.24	15.61	15.75	16.11	16.68	0.00	0.00	0.00	0.00	0.19
12H	4H	15.41	15.93	15.90	16.41	16.89	0.00	0.00	0.00	0.00	0.37
	6H	15.29	15.71	15.81	16.23	16.73	0.00	0.00	0.00	0.00	0.23
	8H	15.24	15.61	15.75	16.11	16.68	0.00	0.00	0.00	0.00	0.19