

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: P1060627

Luminaire Tested: S124RDR-H1020D830-X4F0-XX-UDD-SVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060627  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-38)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H1020D830-X4F0-XX-UDD-SVL-B  
Description: DEFINE 4 BLACK REGRESSED DIRECT RECESSED HOUSING WITH SILVER STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

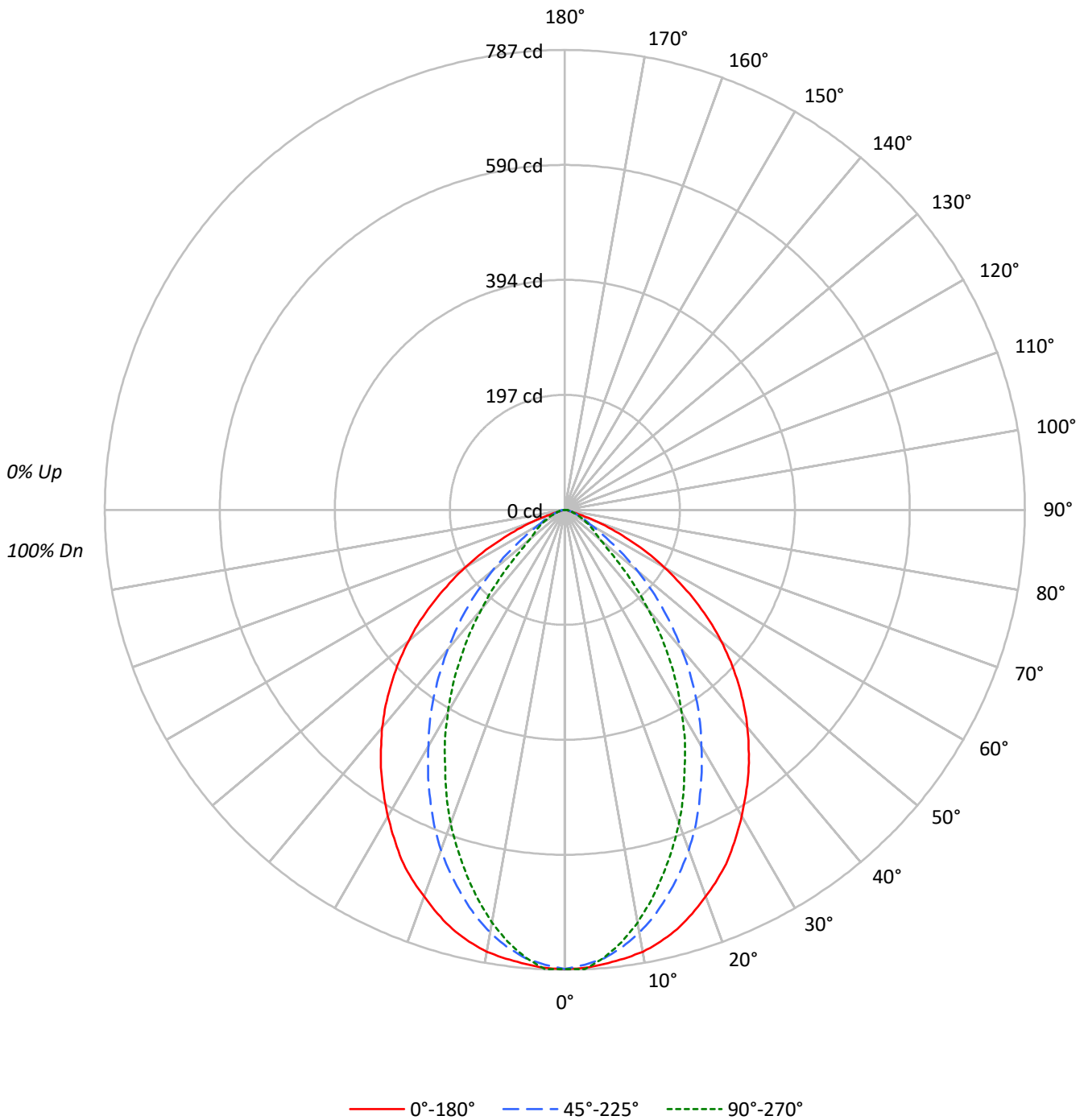
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1158.4 lumens  
Efficiency: N/A  
Efficacy: 37.1 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.87 / 1.02  
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	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	97	98	96	94	95	93	92	90			90	
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80			80	
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71			71	
4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	63			63	
5	84	74	66	61	82	73	66	60	71	65	60	69	63	59	67	62	59	57			57	
6	79	68	60	55	77	67	60	54	65	59	54	63	58	54	62	57	53	51			51	
7	74	62	55	50	72	62	54	49	60	54	49	59	53	49	58	52	48	47			47	
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	54	48	44	43			43	
9	65	53	46	41	64	53	46	41	52	46	41	51	45	41	50	45	41	39			39	
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36			36	

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

	0°	45°	90°
0°	6766	6766	6766
5°	6744	6658	6648
10°	6715	6425	6270
15°	6620	6077	5772
20°	6449	5679	5233
25°	6278	5184	4605
30°	6019	4644	3972
35°	5759	4106	3281
40°	5461	3496	2488
45°	5107	2857	1671
50°	4670	2165	1038
55°	4103	1429	881
60°	3393	877	725
65°	2457	676	587
70°	1337	501	446
75°	296	369	406
80°	218	273	327
85°	217	217	326

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5107 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.8	6.3
10°-20°	193.3	16.7
20°-30°	256.1	22.1
30°-40°	254.2	21.9
40°-50°	195.6	16.9
50°-60°	116.6	10.1
60°-70°	53.0	4.6
70°-80°	13.7	1.2
80°-90°	3.0	0.3
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°	522.3	45.1
0°-40°	776.5	67.0
0°-60°	1088.7	94.0
0°-90°	1158.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1158.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	786	786	786	786	786	
5°	780	781	770	770	769	74
15°	743	724	682	658	647	209
25°	661	613	546	500	485	303
35°	548	479	391	331	312	342
45°	419	338	235	164	137	323
55°	273	195	95	60	59	244
65°	121	72	33	29	29	121
75°	9	11	11	12	12	19
85°	2	2	2	3	3	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	785.7	785.7	785.7	785.7	785.7
2.5°	784.6	785.7	779.1	784.6	786.8
5°	780.2	781.3	770.2	770.2	769.1
7.5°	774.6	772.4	754.7	748.1	745.9
10°	768.0	760.3	734.8	721.5	717.1
12.5°	756.9	744.8	710.5	691.6	683.9
15°	742.6	723.7	681.7	658.4	647.4
17.5°	724.8	701.6	651.8	621.9	609.8
20°	703.8	672.8	619.7	582.1	571.0
22.5°	683.9	645.2	584.3	541.1	529.0
25°	660.7	613.1	545.6	500.2	484.7
27.5°	633.0	582.1	506.8	460.4	444.9
30°	605.3	548.9	467.0	418.3	399.5
32.5°	576.6	514.6	430.5	375.1	357.4
35°	547.8	479.2	390.6	330.9	312.1
37.5°	516.8	443.8	350.8	288.8	267.8
40°	485.8	409.5	311.0	247.9	221.3
42.5°	453.7	374.0	272.2	205.8	179.3
45°	419.4	337.5	234.6	163.8	137.2
47.5°	385.1	303.2	197.0	122.8	98.5
50°	348.6	266.7	161.6	89.6	77.5
52.5°	312.1	231.3	126.2	69.7	66.4
55°	273.3	194.8	95.2	59.8	58.7
57.5°	233.5	161.6	68.6	52.0	49.8
60°	197.0	130.6	50.9	44.3	42.1
62.5°	159.4	98.5	42.1	36.5	34.3
65°	120.6	71.9	33.2	28.8	28.8
67.5°	87.4	48.7	26.6	23.2	22.1
70°	53.1	29.9	19.9	18.8	17.7
72.5°	26.6	17.7	15.5	14.4	14.4
75°	8.9	11.1	11.1	12.2	12.2
77.5°	6.6	7.7	7.7	8.9	8.9
80°	4.4	5.5	5.5	6.6	6.6
82.5°	3.3	3.3	4.4	4.4	5.5
85°	2.2	2.2	2.2	3.3	3.3
87.5°	1.1	1.1	1.1	2.2	2.2
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	15.76	17.10	16.13	17.41	17.72	7.31	8.64	7.68	8.96	9.27
	3H	16.27	17.45	16.65	17.78	18.15	8.13	9.31	8.50	9.64	10.00
	4H	16.24	17.34	16.64	17.69	18.07	8.41	9.51	8.81	9.86	10.24
	6H	16.17	17.18	16.59	17.55	17.94	8.58	9.59	9.00	9.96	10.35
	8H	16.13	17.09	16.56	17.48	17.88	8.65	9.60	9.08	9.99	10.40
	12H	16.10	17.01	16.53	17.39	17.82	8.69	9.60	9.12	9.98	10.41
4H	2H	15.60	16.70	16.01	17.05	17.44	7.75	8.85	8.15	9.20	9.58
	3H	16.16	17.05	16.57	17.46	17.86	8.71	9.61	9.13	10.01	10.42
	4H	16.13	16.92	16.56	17.34	17.79	9.08	9.88	9.52	10.30	10.74
	6H	16.07	16.76	16.54	17.21	17.67	9.33	10.02	9.79	10.46	10.93
	8H	16.03	16.67	16.50	17.11	17.59	9.42	10.06	9.89	10.51	10.98
	12H	15.99	16.55	16.48	17.04	17.51	9.49	10.06	9.98	10.54	11.01
8H	4H	16.02	16.66	16.49	17.10	17.57	9.17	9.81	9.64	10.26	10.73
	6H	15.96	16.48	16.46	16.97	17.45	9.48	10.00	9.98	10.50	10.98
	8H	15.91	16.38	16.43	16.89	17.38	9.61	10.08	10.13	10.59	11.08
	12H	15.88	16.29	16.39	16.78	17.36	9.74	10.16	10.26	10.65	11.22
12H	4H	15.97	16.54	16.46	17.02	17.50	9.14	9.71	9.63	10.19	10.66
	6H	15.90	16.37	16.42	16.88	17.38	9.46	9.93	9.98	10.44	10.93
	8H	15.87	16.29	16.39	16.78	17.35	9.63	10.04	10.14	10.54	11.11