

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: P1060625

Luminaire Tested: S124RDR-H1020D830-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060625  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-78)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H1020D830-X4F0-XX-UDD-BVL-S  
Description: DEFINE 4 SILVER REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

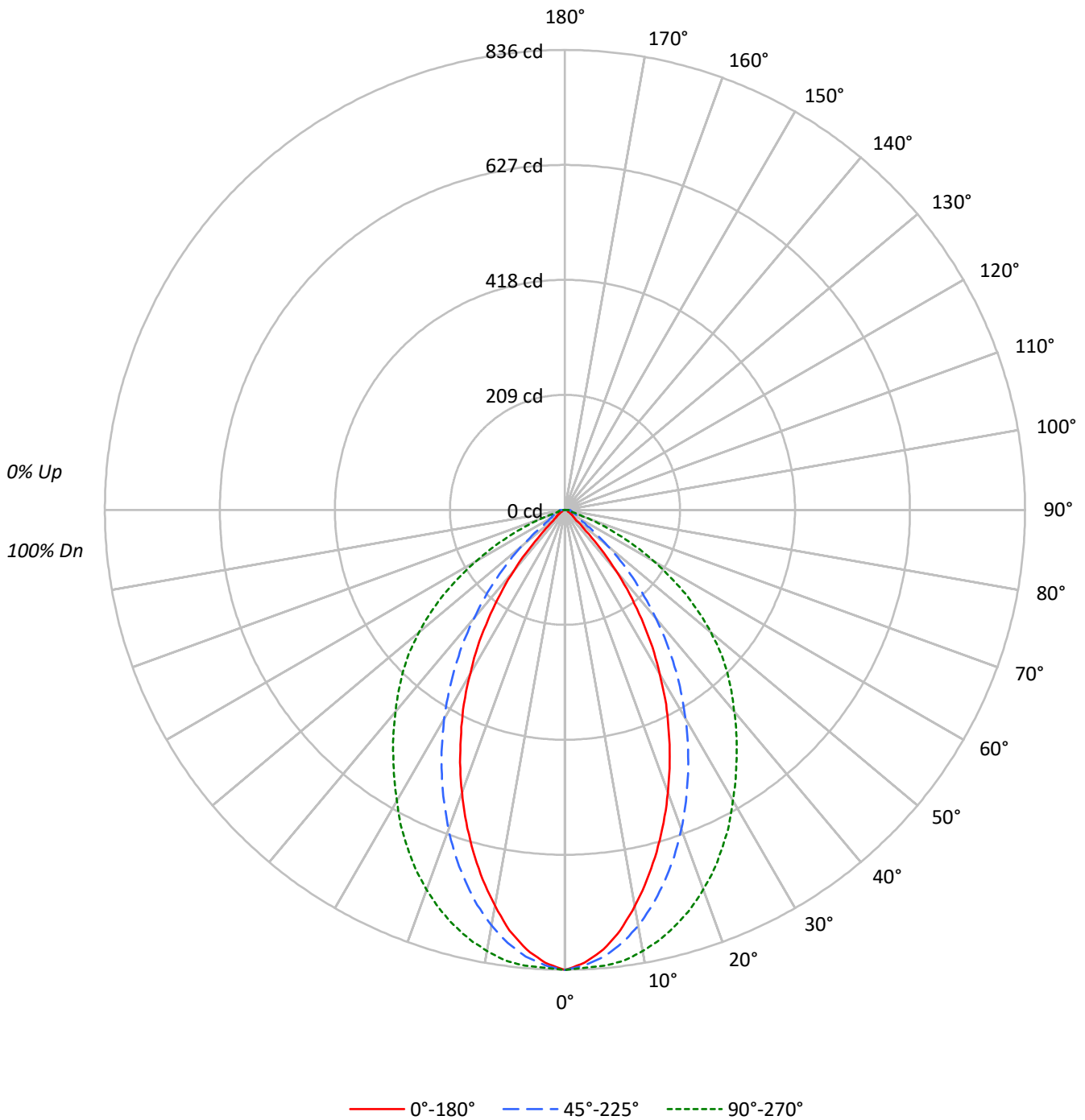
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1049.8 lumens  
Efficiency: N/A  
Efficacy: 33.6 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.11 / 0.97  
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				
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90				
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81				
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73				
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65				
5	86	76	68	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59				
6	80	70	62	57	79	69	62	57	67	61	57	66	60	56	64	59	56	54				
7	76	64	57	52	74	64	57	52	62	56	52	61	56	51	60	55	51	50				
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46				
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42				
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	39				

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

	0°	45°	90°
0°	7202	7202	7202
5°	6933	7048	7192
10°	6394	6713	7120
15°	5739	6232	6963
20°	5015	5665	6731
25°	4242	5032	6431
30°	3425	4362	6069
35°	2550	3646	5719
40°	1619	2889	5380
45°	648	2118	5073
50°	281	1350	4631
55°	216	698	4042
60°	153	477	3205
65°	112	475	2190
70°	111	418	1005
75°	146	443	406
80°	218	496	441
85°	435	879	652

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 5073 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.6	7.3
10°-20°	197.5	18.8
20°-30°	249.4	23.8
30°-40°	229.1	21.8
40°-50°	156.2	14.9
50°-60°	84.7	8.1
60°-70°	35.9	3.4
70°-80°	12.4	1.2
80°-90°	7.9	0.8
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°	523.5	49.9
0°-40°	752.6	71.7
0°-60°	993.5	94.6
0°-90°	1049.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1049.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	836	836	836	836	836	
5°	802	814	815	822	832	74
15°	644	665	699	749	781	179
25°	446	475	530	612	677	204
35°	243	275	347	455	544	151
45°	53	85	174	308	417	49
55°	14	16	46	170	269	13
65°	6	7	23	53	108	6
75°	4	12	13	12	12	5
85°	4	9	9	9	7	4
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	836.4	836.4	836.4	836.4	836.4
2.5°	824.2	834.2	828.7	830.9	833.1
5°	802.1	814.3	815.4	822.0	832.0
7.5°	771.1	785.5	794.3	811.0	826.5
10°	731.2	748.9	767.7	794.3	814.3
12.5°	689.1	707.9	735.6	773.3	799.9
15°	643.7	664.7	699.1	748.9	781.0
17.5°	596.0	619.3	660.3	719.0	760.0
20°	547.3	572.8	618.2	684.7	734.5
22.5°	497.4	524.0	573.9	649.2	707.9
25°	446.5	475.3	529.6	611.5	676.9
27.5°	397.7	424.3	484.1	573.9	645.9
30°	344.5	374.5	438.7	535.1	610.4
32.5°	295.8	324.6	392.2	495.2	577.2
35°	242.6	274.7	346.8	455.3	544.0
37.5°	192.8	223.8	302.4	417.7	511.8
40°	144.0	176.1	257.0	380.0	478.6
42.5°	96.4	130.7	213.8	341.2	447.6
45°	53.2	85.3	173.9	308.0	416.6
47.5°	27.7	46.5	136.3	274.7	383.3
50°	21.0	25.5	100.8	238.2	345.7
52.5°	17.7	18.8	68.7	201.6	308.0
55°	14.4	15.5	46.5	169.5	269.2
57.5°	11.1	12.2	33.2	138.5	226.0
60°	8.9	10.0	27.7	106.4	186.1
62.5°	6.6	7.8	26.6	78.7	146.2
65°	5.5	6.6	23.3	53.2	107.5
67.5°	4.4	6.6	19.9	34.3	72.0
70°	4.4	8.9	16.6	22.2	39.9
72.5°	4.4	10.0	14.4	14.4	14.4
75°	4.4	12.2	13.3	12.2	12.2
77.5°	4.4	11.1	11.1	11.1	11.1
80°	4.4	10.0	10.0	10.0	8.9
82.5°	4.4	8.9	10.0	10.0	7.8
85°	4.4	8.9	8.9	8.9	6.6
87.5°	3.3	8.9	8.9	8.9	4.4
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	0.00	15.30	16.58	15.67	16.89	17.21
	3H	0.00	0.00	0.00	0.27	0.64	15.66	16.79	16.04	17.12	17.48
	4H	0.19	1.24	0.60	1.60	1.98	15.62	16.67	16.03	17.02	17.41
	6H	1.56	2.52	1.97	2.89	3.29	15.60	16.56	16.02	16.93	17.33
	8H	2.24	3.15	2.67	3.54	3.94	15.59	16.50	16.02	16.89	17.30
	12H	3.03	3.90	3.47	4.29	4.72	15.59	16.46	16.02	16.84	17.27
4H	2H	1.01	2.06	1.41	2.41	2.79	15.11	16.15	15.51	16.51	16.89
	3H	2.43	3.28	2.84	3.69	4.09	15.50	16.36	15.91	16.76	17.16
	4H	3.88	4.64	4.31	5.06	5.50	15.48	16.24	15.92	16.66	17.11
	6H	5.12	5.78	5.58	6.23	6.69	15.50	16.16	15.96	16.61	17.07
	8H	5.69	6.30	6.16	6.75	7.22	15.51	16.12	15.98	16.57	17.04
	12H	6.36	6.90	6.85	7.39	7.86	15.55	16.09	16.03	16.57	17.05
8H	4H	4.95	5.57	5.42	6.01	6.49	15.38	16.00	15.85	16.44	16.92
	6H	6.56	7.07	7.07	7.56	8.05	15.43	15.93	15.94	16.43	16.91
	8H	7.40	7.85	7.92	8.37	8.86	15.49	15.94	16.01	16.46	16.95
	12H	8.36	8.76	8.88	9.26	9.83	15.61	16.01	16.12	16.50	17.07
12H	4H	5.14	5.68	5.63	6.17	6.64	15.34	15.89	15.83	16.37	16.84
	6H	6.91	7.36	7.44	7.88	8.37	15.40	15.85	15.92	16.37	16.86
	8H	7.93	8.33	8.45	8.83	9.40	15.51	15.90	16.02	16.40	16.97