

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: P1060634

Luminaire Tested: S124RDR-H1020D835-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060634  
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-H1020D835-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: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

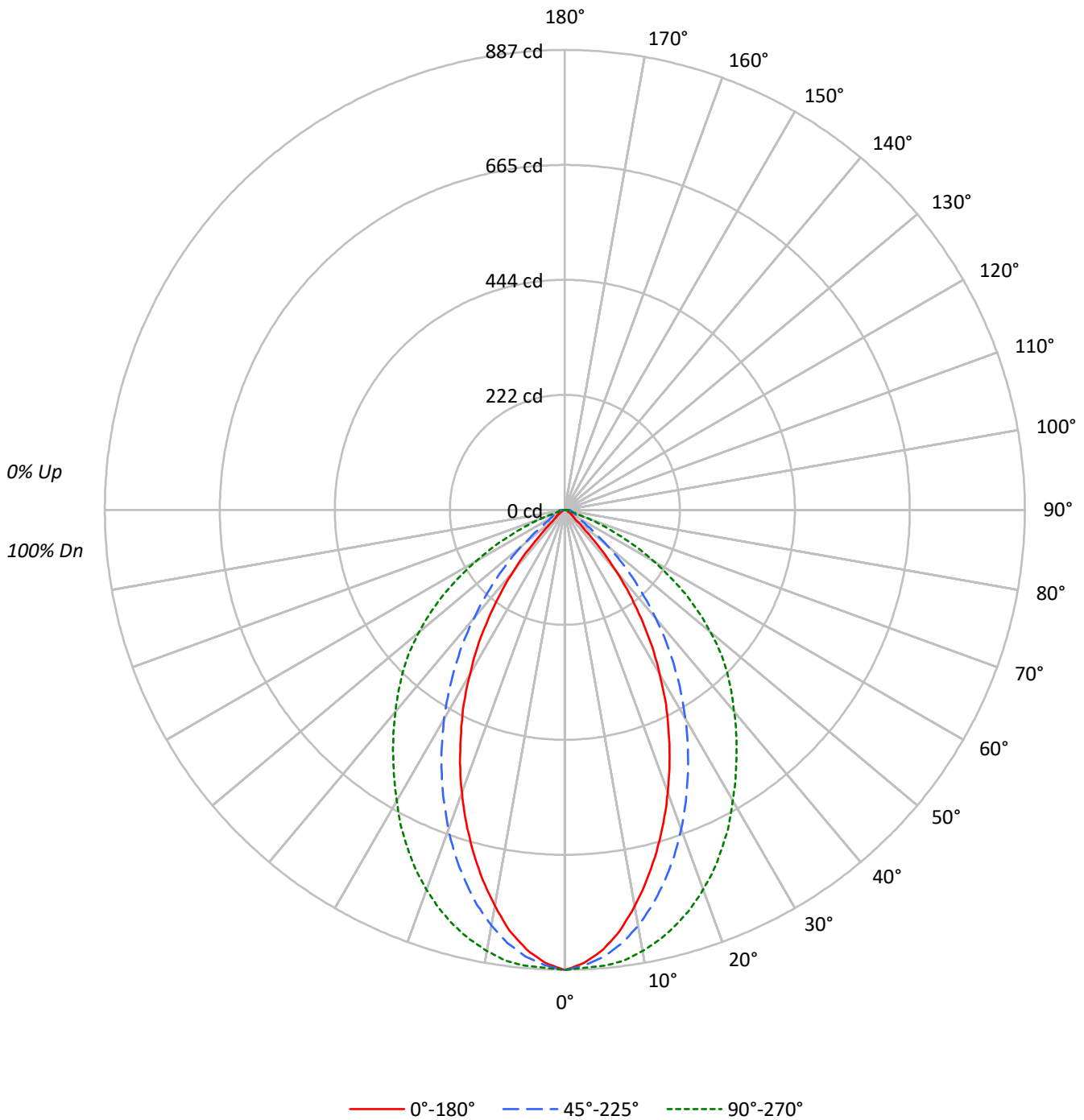
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1113.8 lumens  
Efficiency: N/A  
Efficacy: 35.7 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°	7642	7642	7642
5°	7356	7478	7630
10°	6784	7122	7554
15°	6088	6612	7388
20°	5320	6011	7141
25°	4501	5338	6824
30°	3634	4629	6439
35°	2706	3867	6067
40°	1718	3065	5708
45°	687	2247	5381
50°	299	1433	4913
55°	230	742	4288
60°	162	506	3401
65°	120	503	2323
70°	118	443	1065
75°	156	469	429
80°	233	526	466
85°	464	929	701

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 5381 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.2	7.3
10°-20°	209.5	18.8
20°-30°	264.6	23.8
30°-40°	243.1	21.8
40°-50°	165.7	14.9
50°-60°	89.9	8.1
60°-70°	38.1	3.4
70°-80°	13.2	1.2
80°-90°	8.4	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°	555.4	49.9
0°-40°	798.5	71.7
0°-60°	1054.1	94.6
0°-90°	1113.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1113.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	887	887	887	887	887	
5°	851	864	865	872	883	79
15°	683	705	742	795	829	190
25°	474	504	562	649	718	217
35°	257	292	368	483	577	160
45°	56	90	184	327	442	52
55°	15	16	49	180	286	14
65°	6	7	25	56	114	6
75°	5	13	14	13	13	5
85°	5	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°	887.4	887.4	887.4	887.4	887.4
2.5°	874.5	885.1	879.2	881.5	883.9
5°	851.0	863.9	865.1	872.1	882.7
7.5°	818.1	833.4	842.8	860.4	876.8
10°	775.8	794.6	814.5	842.8	863.9
12.5°	731.1	751.1	780.5	820.4	848.6
15°	682.9	705.2	741.7	794.6	828.7
17.5°	632.4	657.0	700.5	762.8	806.3
20°	580.6	607.7	655.9	726.4	779.3
22.5°	527.8	556.0	608.9	688.8	751.1
25°	473.7	504.2	561.8	648.8	718.2
27.5°	422.0	450.2	513.6	608.9	685.3
30°	365.5	397.3	465.5	567.7	647.6
32.5°	313.8	344.4	416.1	525.4	612.4
35°	257.4	291.5	367.9	483.1	577.1
37.5°	204.5	237.4	320.9	443.1	543.0
40°	152.8	186.9	272.7	403.2	507.8
42.5°	102.3	138.7	226.9	362.0	474.9
45°	56.4	90.5	184.5	326.8	441.9
47.5°	29.4	49.4	144.6	291.5	406.7
50°	22.3	27.0	107.0	252.7	366.7
52.5°	18.8	20.0	72.9	213.9	326.8
55°	15.3	16.5	49.4	179.8	285.6
57.5°	11.8	12.9	35.3	146.9	239.8
60°	9.4	10.6	29.4	112.8	197.5
62.5°	7.1	8.2	28.2	83.5	155.2
65°	5.9	7.1	24.7	56.4	114.0
67.5°	4.7	7.1	21.2	36.4	76.4
70°	4.7	9.4	17.6	23.5	42.3
72.5°	4.7	10.6	15.3	15.3	15.3
75°	4.7	12.9	14.1	12.9	12.9
77.5°	4.7	11.8	11.8	11.8	11.8
80°	4.7	10.6	10.6	10.6	9.4
82.5°	4.7	9.4	10.6	10.6	8.2
85°	4.7	9.4	9.4	9.4	7.1
87.5°	3.5	9.4	9.4	9.4	4.7
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	0.00	15.51	16.78	15.87	17.09	17.41
	3H	0.00	0.15	0.00	0.48	0.85	15.86	16.99	16.24	17.32	17.69
	4H	0.40	1.45	0.81	1.80	2.19	15.83	16.88	16.23	17.23	17.61
	6H	1.77	2.74	2.19	3.11	3.50	15.80	16.77	16.22	17.14	17.53
	8H	2.46	3.37	2.89	3.76	4.16	15.79	16.70	16.22	17.09	17.50
	12H	3.26	4.13	3.69	4.51	4.94	15.79	16.66	16.22	17.04	17.48
4H	2H	1.21	2.25	1.61	2.61	2.99	15.31	16.36	15.71	16.71	17.09
	3H	2.63	3.48	3.04	3.89	4.29	15.70	16.56	16.12	16.96	17.37
	4H	4.08	4.84	4.51	5.26	5.70	15.68	16.45	16.12	16.87	17.31
	6H	5.33	5.98	5.79	6.43	6.90	15.70	16.36	16.17	16.81	17.28
	8H	5.89	6.51	6.36	6.96	7.43	15.71	16.33	16.18	16.78	17.25
	12H	6.57	7.11	7.06	7.59	8.07	15.75	16.29	16.24	16.78	17.25
8H	4H	5.15	5.77	5.62	6.22	6.69	15.58	16.20	16.05	16.65	17.12
	6H	6.77	7.27	7.27	7.77	8.25	15.64	16.14	16.14	16.64	17.12
	8H	7.60	8.05	8.13	8.57	9.06	15.69	16.14	16.22	16.66	17.15
	12H	8.57	8.97	9.08	9.46	10.03	15.81	16.21	16.33	16.70	17.28
12H	4H	5.34	5.89	5.83	6.37	6.84	15.55	16.09	16.03	16.57	17.05
	6H	7.12	7.57	7.64	8.09	8.58	15.60	16.06	16.13	16.57	17.06
	8H	8.14	8.54	8.65	9.03	9.60	15.71	16.11	16.22	16.60	17.18