

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: P1060643

Luminaire Tested: S124RDR-H1020D840-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060643  
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-H1020D840-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: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

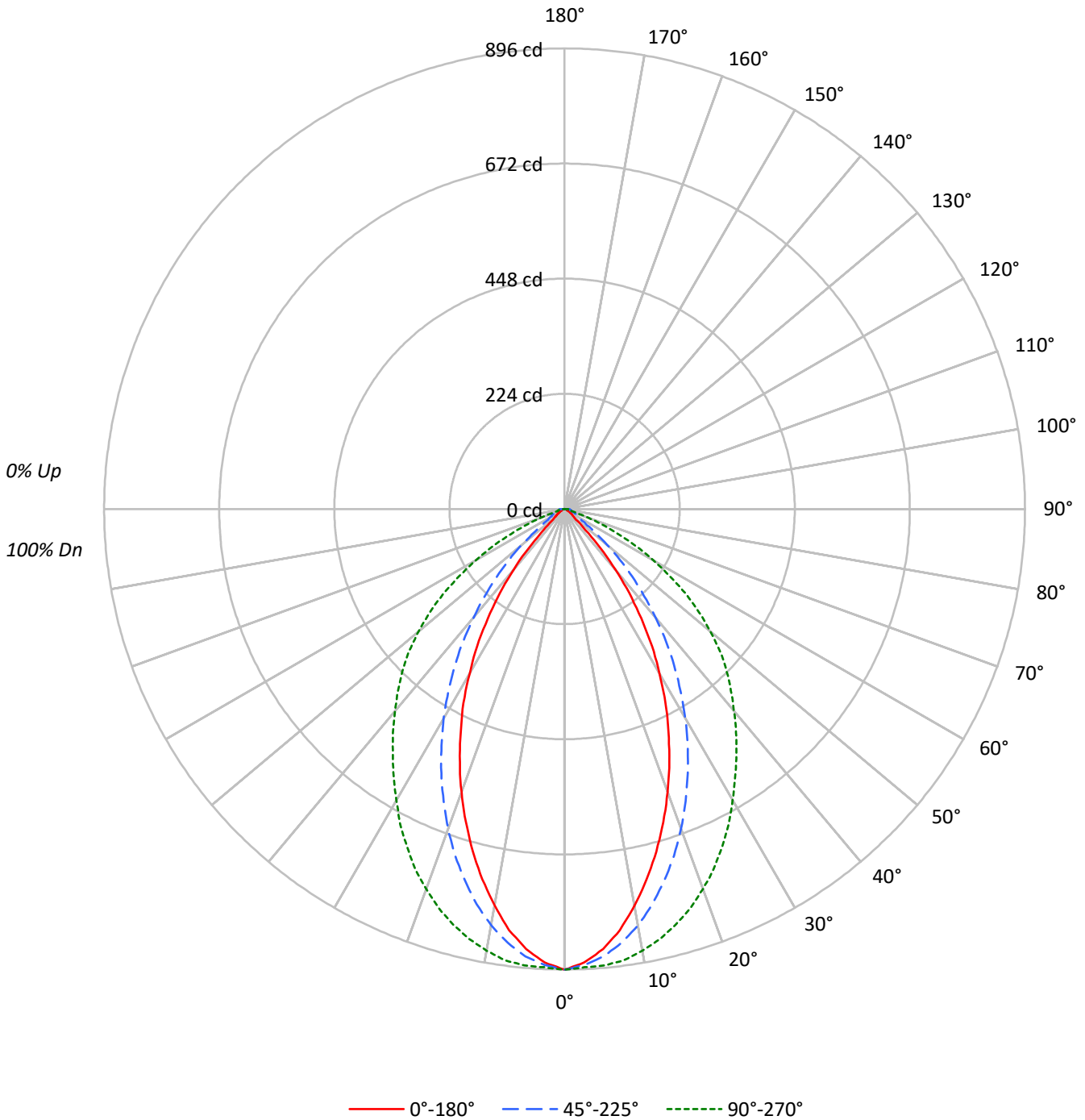
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1124.8 lumens  
Efficiency: N/A  
Efficacy: 36.0 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			100	
1	112	108	105	103	109	106	103	101	102	100	98	98	96	95	95	93	92	90			90	
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81			81	
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73			73	
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65			65	
5	86	76	68	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59			59	
6	80	70	62	57	79	69	62	57	67	61	57	66	60	56	64	59	56	54			54	
7	76	64	57	52	74	64	57	52	62	56	52	61	56	51	60	55	51	50			50	
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46			46	
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42			42	
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	39			39	

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

	0°	45°	90°
0°	7717	7717	7717
5°	7429	7551	7705
10°	6850	7193	7628
15°	6148	6677	7460
20°	5374	6069	7212
25°	4545	5391	6891
30°	3671	4673	6503
35°	2733	3905	6127
40°	1734	3096	5764
45°	694	2270	5435
50°	303	1447	4961
55°	231	749	4330
60°	164	512	3434
65°	120	507	2345
70°	118	448	1075
75°	156	472	436
80°	233	531	471
85°	464	939	701

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 5435 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.0	7.3
10°-20°	211.6	18.8
20°-30°	267.2	23.8
30°-40°	245.5	21.8
40°-50°	167.4	14.9
50°-60°	90.8	8.1
60°-70°	38.5	3.4
70°-80°	13.3	1.2
80°-90°	8.5	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°	560.9	49.9
0°-40°	806.3	71.7
0°-60°	1064.5	94.6
0°-90°	1124.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1124.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	896	896	896	896	896	
5°	859	872	874	881	891	80
15°	690	712	749	802	837	192
25°	478	509	567	655	725	219
35°	260	294	372	488	583	161
45°	57	91	186	330	446	52
55°	15	17	50	182	288	14
65°	6	7	25	57	115	6
75°	5	13	14	13	13	5
85°	5	10	10	10	7	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	896.2	896.2	896.2	896.2	896.2
2.5°	883.1	893.8	887.9	890.2	892.6
5°	859.4	872.4	873.6	880.7	891.4
7.5°	826.1	841.6	851.1	868.9	885.5
10°	783.4	802.4	822.6	851.1	872.4
12.5°	738.3	758.5	788.2	828.5	857.0
15°	689.6	712.2	749.0	802.4	836.8
17.5°	638.6	663.5	707.4	770.4	814.3
20°	586.4	613.7	662.3	733.6	787.0
22.5°	533.0	561.4	614.9	695.6	758.5
25°	478.4	509.2	567.4	655.2	725.3
27.5°	426.1	454.6	518.7	614.9	692.0
30°	369.2	401.2	470.0	573.3	654.0
32.5°	316.9	347.8	420.2	530.6	618.4
35°	260.0	294.4	371.5	487.9	582.8
37.5°	206.5	239.8	324.0	447.5	548.4
40°	154.3	188.7	275.4	407.1	512.8
42.5°	103.3	140.1	229.1	365.6	479.5
45°	57.0	91.4	186.4	330.0	446.3
47.5°	29.7	49.9	146.0	294.4	410.7
50°	22.6	27.3	108.0	255.2	370.3
52.5°	19.0	20.2	73.6	216.0	330.0
55°	15.4	16.6	49.9	181.6	288.4
57.5°	11.9	13.1	35.6	148.4	242.1
60°	9.5	10.7	29.7	114.0	199.4
62.5°	7.1	8.3	28.5	84.3	156.7
65°	5.9	7.1	24.9	57.0	115.1
67.5°	4.7	7.1	21.4	36.8	77.2
70°	4.7	9.5	17.8	23.7	42.7
72.5°	4.7	10.7	15.4	15.4	15.4
75°	4.7	13.1	14.2	13.1	13.1
77.5°	4.7	11.9	11.9	11.9	11.9
80°	4.7	10.7	10.7	10.7	9.5
82.5°	4.7	9.5	10.7	10.7	8.3
85°	4.7	9.5	9.5	9.5	7.1
87.5°	3.6	9.5	9.5	9.5	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	15.54	16.82	15.91	17.13	17.45
	3H	0.00	0.19	0.00	0.52	0.88	15.90	17.03	16.28	17.36	17.72
	4H	0.44	1.49	0.84	1.84	2.22	15.86	16.91	16.27	17.26	17.65
	6H	1.79	2.76	2.21	3.13	3.52	15.84	16.80	16.25	17.17	17.57
	8H	2.47	3.38	2.90	3.77	4.18	15.83	16.74	16.26	17.13	17.54
	12H	3.26	4.13	3.70	4.52	4.95	15.83	16.70	16.26	17.08	17.51
4H	2H	1.24	2.29	1.65	2.64	3.03	15.35	16.39	15.75	16.75	17.13
	3H	2.66	3.52	3.07	3.92	4.32	15.74	16.59	16.15	17.00	17.40
	4H	4.11	4.88	4.55	5.30	5.74	15.72	16.48	16.16	16.90	17.35
	6H	5.36	6.01	5.82	6.46	6.93	15.74	16.40	16.20	16.84	17.31
	8H	5.92	6.54	6.39	6.98	7.45	15.75	16.36	16.22	16.81	17.28
	12H	6.59	7.13	7.08	7.62	8.09	15.79	16.33	16.27	16.81	17.29
8H	4H	5.19	5.80	5.66	6.25	6.72	15.62	16.24	16.09	16.68	17.15
	6H	6.80	7.30	7.30	7.80	8.28	15.67	16.17	16.17	16.67	17.15
	8H	7.63	8.08	8.15	8.60	9.09	15.73	16.18	16.25	16.70	17.19
	12H	8.59	8.99	9.11	9.49	10.06	15.84	16.24	16.36	16.74	17.31
12H	4H	5.38	5.92	5.86	6.40	6.88	15.58	16.12	16.07	16.61	17.08
	6H	7.15	7.60	7.67	8.11	8.61	15.64	16.09	16.16	16.61	17.10
	8H	8.16	8.56	8.68	9.06	9.63	15.74	16.14	16.26	16.64	17.21