

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1439957

Luminaire Tested: S124DR-S290D950-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439957  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/2/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DR-S290D950-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

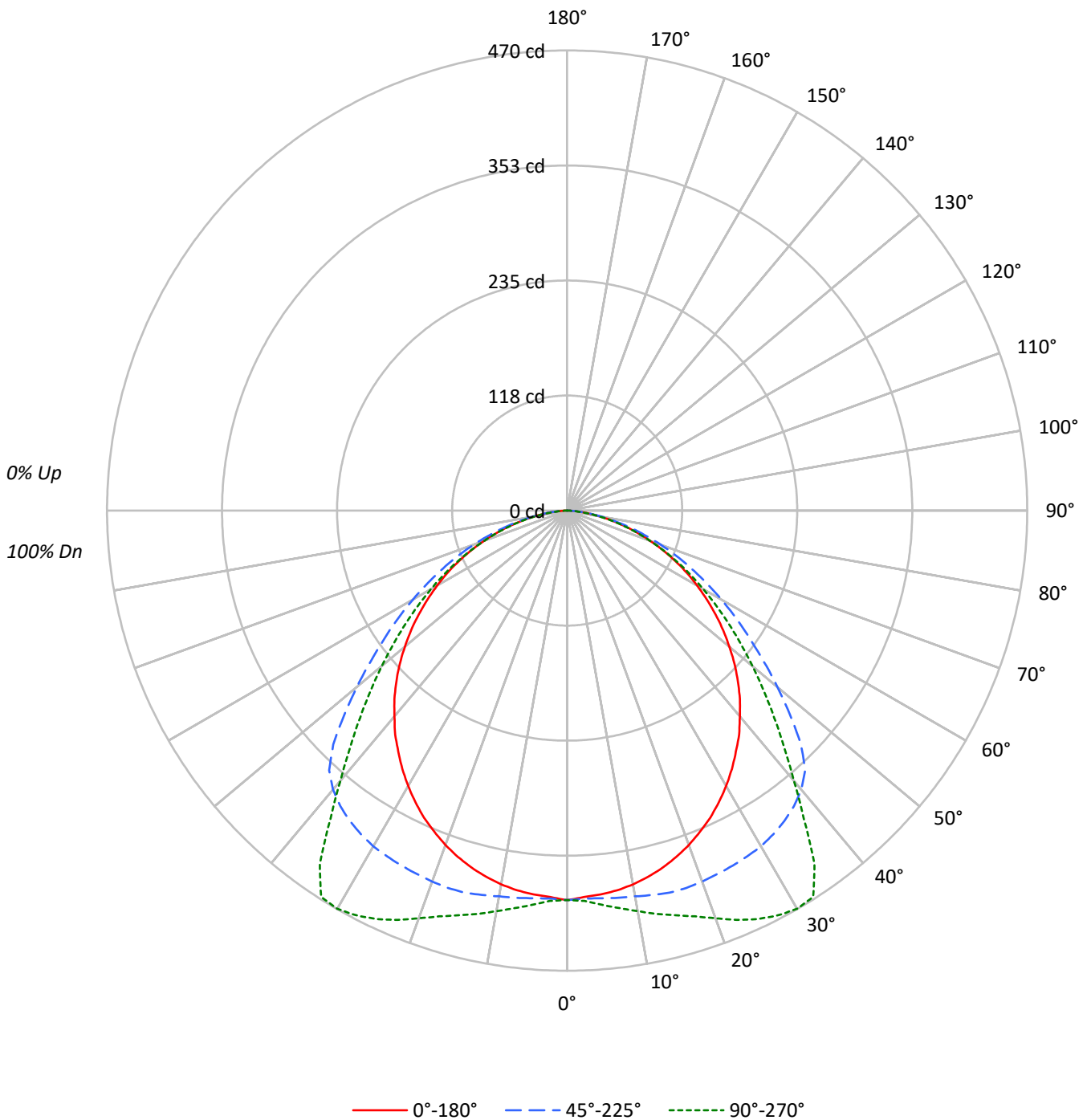
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1209.0 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 12.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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

	0°	45°	90°
0°	3517	3517	3517
5°	3492	3527	3586
10°	3481	3592	3729
15°	3455	3699	3917
20°	3420	3795	4169
25°	3374	3903	4490
30°	3316	4042	4794
35°	3244	4176	4753
40°	3167	4293	4158
45°	3085	4222	3739
50°	2975	3855	3399
55°	2852	3508	3104
60°	2713	3216	2843
65°	2548	2931	2596
70°	2332	2624	2321
75°	2053	2255	2012
80°	1690	1807	1629
85°	1187	1227	1106

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 4222 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.2	3.2
10°-20°	114.4	9.5
20°-30°	186.2	15.4
30°-40°	236.4	19.6
40°-50°	230.4	19.1
50°-60°	188.9	15.6
60°-70°	131.8	10.9
70°-80°	67.7	5.6
80°-90°	15.0	1.2
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°	338.8	28.0
0°-40°	575.2	47.6
0°-60°	994.5	82.3
0°-90°	1209.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1209.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	394	399	397	400	404	37
15°	378	389	404	420	428	106
25°	346	368	400	442	460	159
35°	301	330	387	443	440	188
45°	247	277	338	310	299	190
55°	185	214	228	208	201	165
65°	122	139	140	129	124	121
75°	60	67	66	61	59	64
85°	12	12	12	11	11	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	397.8	397.8	397.8	397.8	397.8
2.5°	395.1	400.1	396.6	398.2	399.0
5°	393.5	399.4	397.4	400.1	404.1
7.5°	391.2	397.8	399.0	404.4	409.5
10°	387.7	395.5	400.1	409.5	415.4
12.5°	383.0	392.7	402.1	415.0	422.0
15°	377.5	389.2	404.1	420.1	427.9
17.5°	370.9	384.9	404.1	424.0	434.5
20°	363.5	379.8	403.3	429.0	443.1
22.5°	354.9	374.4	401.7	434.9	452.5
25°	345.9	368.1	400.1	441.5	460.3
27.5°	335.7	360.7	398.2	446.6	466.1
30°	324.8	351.7	395.9	448.9	469.6
32.5°	313.1	341.2	391.9	448.9	467.7
35°	300.6	329.9	386.9	443.1	440.4
37.5°	288.5	317.8	380.6	414.6	397.4
40°	274.4	304.9	372.0	374.4	360.3
42.5°	261.2	291.2	359.9	340.4	327.9
45°	246.7	277.2	337.7	309.6	299.0
47.5°	231.9	261.9	308.8	281.9	272.1
50°	216.3	246.7	280.3	255.7	247.1
52.5°	201.0	230.3	253.0	231.5	223.3
55°	185.0	213.5	227.6	208.5	201.4
57.5°	169.0	196.4	204.6	187.0	180.4
60°	153.4	178.0	181.9	166.7	160.8
62.5°	137.8	158.9	160.4	147.2	142.1
65°	121.8	139.4	140.1	128.8	124.1
67.5°	106.2	120.6	120.6	110.9	107.0
70°	90.2	102.3	101.5	93.7	89.8
72.5°	75.0	83.5	82.8	76.9	74.2
75°	60.1	66.8	66.0	61.3	58.9
77.5°	46.1	50.8	50.0	46.8	44.9
80°	33.2	35.9	35.5	33.2	32.0
82.5°	21.9	23.4	22.6	21.1	20.3
85°	11.7	12.1	12.1	11.3	10.9
87.5°	4.3	4.3	4.3	4.3	3.9
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	16.05	17.65	16.42	17.97	18.28	15.84	17.44	16.20	17.75	18.07
	3H	17.56	19.00	17.93	19.32	19.68	17.31	18.75	17.69	19.08	19.44
	4H	18.06	19.41	18.46	19.76	20.14	17.81	19.16	18.20	19.51	19.88
	6H	18.38	19.63	18.79	20.00	20.39	18.12	19.37	18.53	19.74	20.13
	8H	18.46	19.66	18.89	20.05	20.45	18.20	19.39	18.62	19.78	20.18
	12H	18.50	19.65	18.93	20.03	20.46	18.23	19.38	18.66	19.76	20.19
4H	2H	16.68	18.03	17.07	18.38	18.75	16.51	17.86	16.90	18.21	18.58
	3H	18.41	19.53	18.82	19.93	20.33	18.17	19.30	18.58	19.70	20.10
	4H	19.03	20.05	19.47	20.46	20.90	18.77	19.79	19.20	20.20	20.64
	6H	19.46	20.35	19.92	20.79	21.25	19.18	20.07	19.64	20.51	20.97
	8H	19.57	20.40	20.04	20.85	21.31	19.29	20.11	19.75	20.56	21.02
	12H	19.64	20.38	20.12	20.86	21.33	19.35	20.09	19.83	20.56	21.03
8H	4H	19.28	20.10	19.74	20.55	21.01	19.04	19.87	19.50	20.31	20.78
	6H	19.80	20.49	20.29	20.97	21.45	19.54	20.23	20.04	20.72	21.19
	8H	19.96	20.58	20.48	21.09	21.57	19.69	20.31	20.20	20.81	21.30
	12H	20.07	20.62	20.58	21.11	21.67	19.79	20.33	20.30	20.83	21.39
12H	4H	19.29	20.03	19.77	20.51	20.98	19.06	19.80	19.54	20.28	20.75
	6H	19.82	20.44	20.33	20.95	21.43	19.57	20.19	20.08	20.70	21.18
	8H	20.03	20.57	20.54	21.07	21.63	19.77	20.31	20.27	20.80	21.36