

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: P1439921

Luminaire Tested: S124DR-H485D950-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439921  
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-H485D950-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

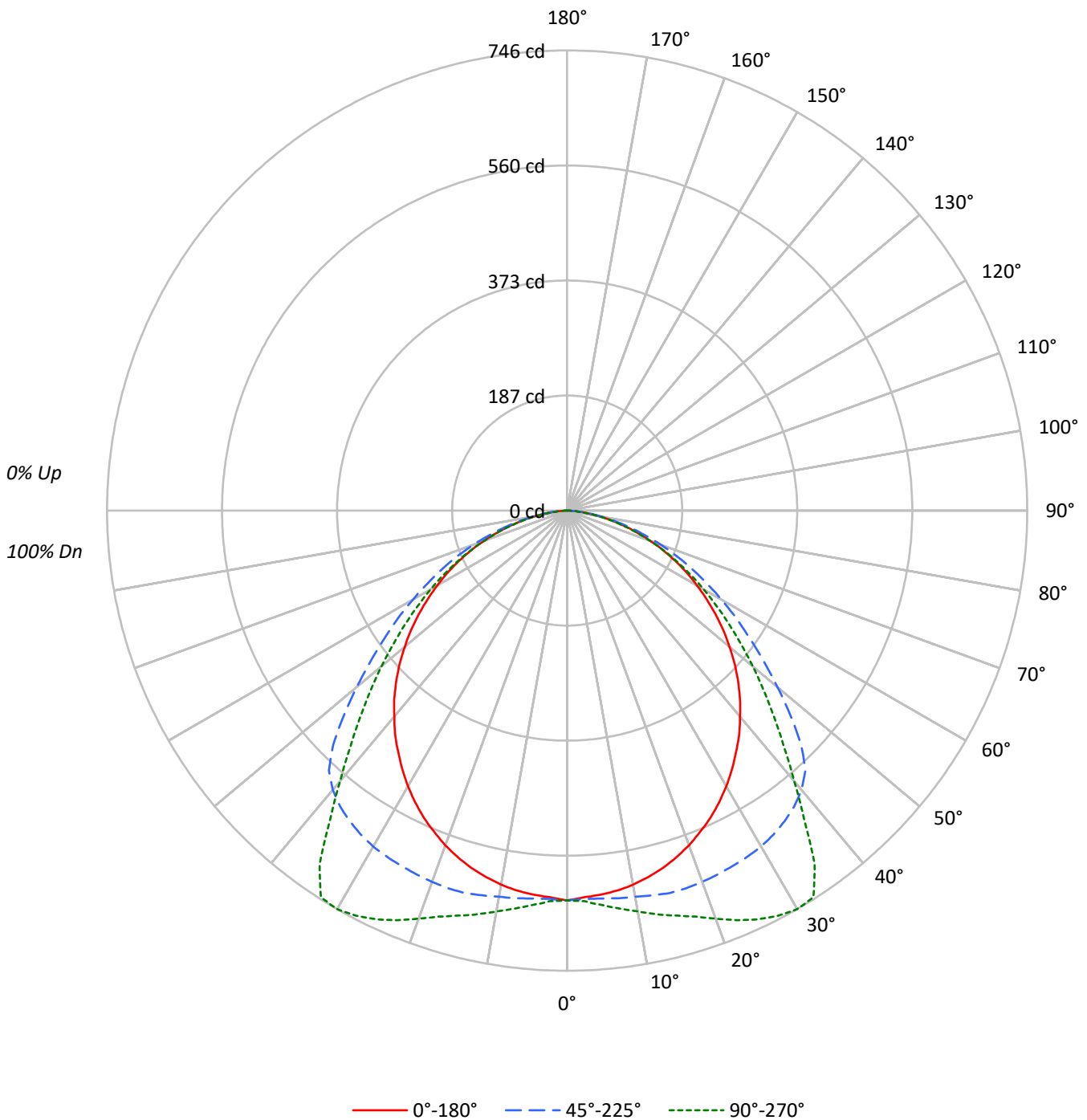
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1920.5 lumens  
Efficiency: N/A  
Efficacy: 111.0 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): 17.3  
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	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	67	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°	5588	5588	5588
5°	5548	5603	5697
10°	5529	5707	5924
15°	5489	5875	6221
20°	5433	6027	6623
25°	5361	6201	7133
30°	5268	6421	7617
35°	5154	6634	7550
40°	5032	6821	6606
45°	4900	6707	5939
50°	4726	6125	5400
55°	4532	5574	4933
60°	4309	5110	4518
65°	4048	4657	4126
70°	3704	4167	3686
75°	3262	3580	3197
80°	2683	2872	2592
85°	1887	1948	1765

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 6707 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	60.6	3.2
10°-20°	181.7	9.5
20°-30°	295.8	15.4
30°-40°	375.6	19.6
40°-50°	366.0	19.1
50°-60°	300.1	15.6
60°-70°	209.4	10.9
70°-80°	107.5	5.6
80°-90°	23.8	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°	538.2	28.0
0°-40°	913.8	47.6
0°-60°	1579.9	82.3
0°-90°	1920.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1920.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	632	632	632	632	632	
5°	625	634	631	636	642	59
15°	600	618	642	667	680	169
25°	550	585	636	701	731	253
35°	478	524	615	704	700	299
45°	392	440	536	492	475	302
55°	294	339	362	331	320	263
65°	194	221	223	205	197	192
75°	96	106	105	97	94	102
85°	19	19	19	18	17	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	632.0	632.0	632.0	632.0	632.0
2.5°	627.6	635.7	630.1	632.6	633.8
5°	625.1	634.4	631.3	635.7	641.9
7.5°	621.4	632.0	633.8	642.5	650.6
10°	615.8	628.2	635.7	650.6	659.9
12.5°	608.4	623.9	638.8	659.2	670.4
15°	599.7	618.3	641.9	667.3	679.7
17.5°	589.2	611.5	641.9	673.5	690.2
20°	577.4	603.4	640.6	681.6	703.9
22.5°	563.7	594.7	638.2	690.9	718.8
25°	549.5	584.8	635.7	701.4	731.2
27.5°	533.3	573.0	632.6	709.5	740.5
30°	516.0	558.8	628.9	713.2	746.1
32.5°	497.4	542.0	622.6	713.2	743.0
35°	477.5	524.0	614.6	703.9	699.5
37.5°	458.3	504.8	604.7	658.6	631.3
40°	436.0	484.4	591.0	594.7	572.4
42.5°	414.9	462.6	571.8	540.8	520.9
45°	391.9	440.3	536.4	491.8	475.0
47.5°	368.4	416.1	490.6	447.8	432.3
50°	343.6	391.9	445.3	406.2	392.6
52.5°	319.4	365.9	401.9	367.8	354.7
55°	294.0	339.2	361.6	331.2	320.0
57.5°	268.5	311.9	325.0	297.1	286.5
60°	243.7	282.8	289.0	264.8	255.5
62.5°	218.9	252.4	254.9	233.8	225.7
65°	193.5	221.4	222.6	204.7	197.2
67.5°	168.7	191.6	191.6	176.1	169.9
70°	143.3	162.5	161.2	148.8	142.6
72.5°	119.1	132.7	131.5	122.2	117.8
75°	95.5	106.0	104.8	97.4	93.6
77.5°	73.2	80.6	79.4	74.4	71.3
80°	52.7	57.1	56.4	52.7	50.9
82.5°	34.7	37.2	36.0	33.5	32.2
85°	18.6	19.2	19.2	18.0	17.4
87.5°	6.8	6.8	6.8	6.8	6.2
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	17.66	19.26	18.03	19.57	19.89	17.45	19.05	17.81	19.36	19.67
	3H	19.16	20.60	19.54	20.93	21.29	18.92	20.36	19.29	20.68	21.04
	4H	19.67	21.02	20.07	21.37	21.74	19.41	20.77	19.81	21.11	21.49
	6H	19.99	21.24	20.40	21.61	22.00	19.73	20.98	20.14	21.35	21.74
	8H	20.07	21.27	20.50	21.65	22.05	19.81	21.00	20.23	21.39	21.79
	12H	20.11	21.25	20.54	21.64	22.06	19.84	20.98	20.27	21.37	21.79
4H	2H	18.28	19.64	18.68	19.98	20.36	18.11	19.47	18.51	19.82	20.19
	3H	20.01	21.14	20.42	21.54	21.94	19.78	20.91	20.19	21.31	21.71
	4H	20.64	21.66	21.07	22.07	22.51	20.38	21.40	20.81	21.81	22.25
	6H	21.07	21.95	21.52	22.40	22.85	20.79	21.68	21.25	22.12	22.58
	8H	21.18	22.01	21.64	22.45	22.92	20.89	21.72	21.36	22.17	22.63
	12H	21.25	21.99	21.73	22.46	22.93	20.95	21.69	21.43	22.17	22.64
8H	4H	20.88	21.71	21.34	22.15	22.62	20.65	21.48	21.11	21.92	22.39
	6H	21.41	22.09	21.90	22.58	23.06	21.15	21.84	21.65	22.33	22.80
	8H	21.57	22.19	22.08	22.69	23.18	21.30	21.91	21.81	22.42	22.91
	12H	21.68	22.22	22.19	22.72	23.28	21.40	21.94	21.91	22.43	23.00
12H	4H	20.89	21.64	21.37	22.11	22.58	20.67	21.41	21.15	21.89	22.36
	6H	21.43	22.04	21.94	22.55	23.04	21.18	21.80	21.69	22.31	22.79
	8H	21.64	22.18	22.15	22.67	23.23	21.37	21.92	21.88	22.41	22.97