

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: P1439917

Luminaire Tested: S124DR-H485D927-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439917
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-H485D927-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

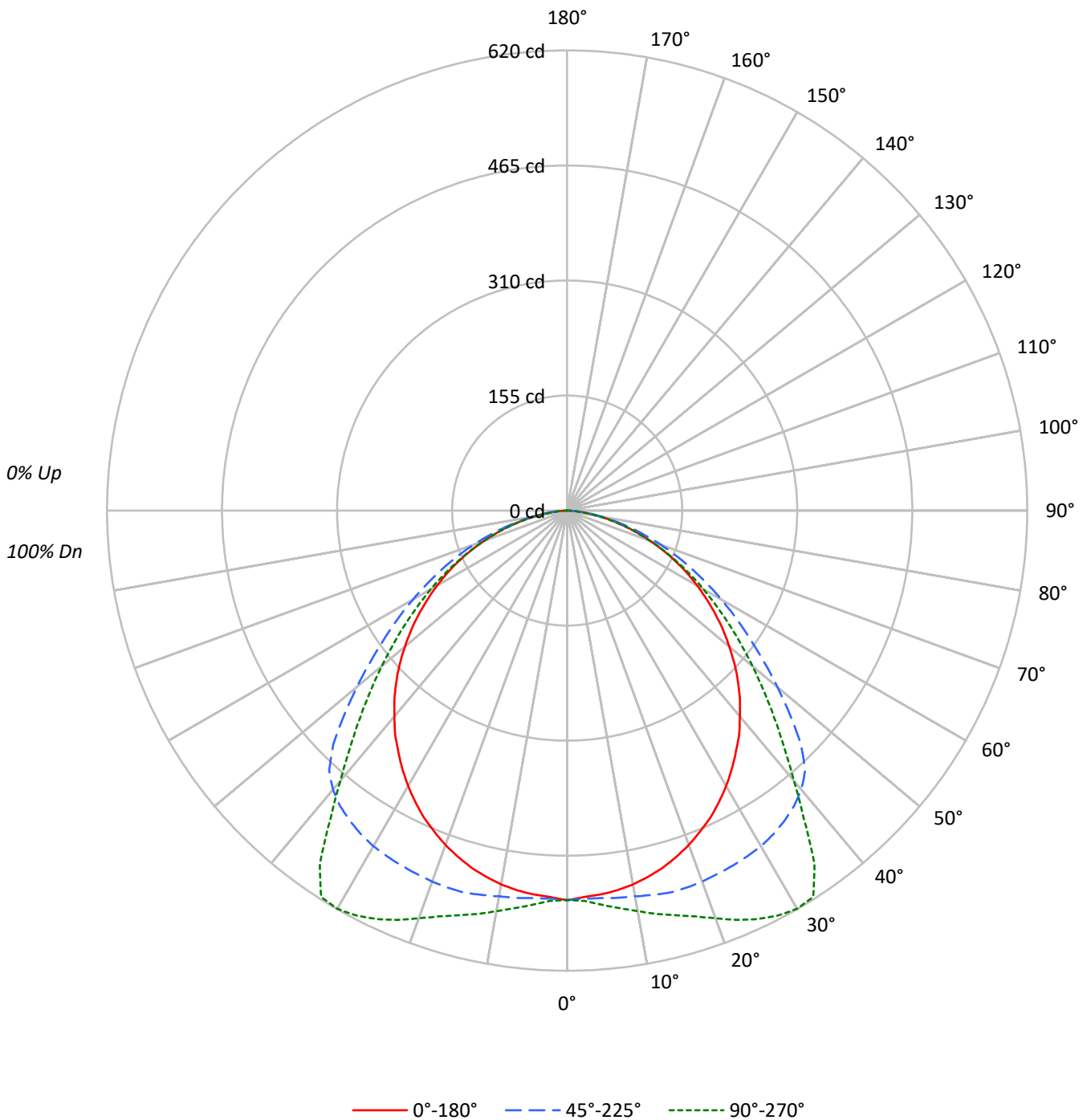
Lumens per Lamp: N/A
Luminaire Lumens: 1594.8 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
Input Voltage (V): 120
Input Current (A_{in}): 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°	4640	4640	4640
5°	4607	4652	4730
10°	4591	4738	4919
15°	4558	4879	5166
20°	4511	5005	5499
25°	4451	5149	5923
30°	4375	5331	6325
35°	4280	5508	6270
40°	4178	5665	5486
45°	4070	5570	4933
50°	3924	5087	4484
55°	3763	4627	4096
60°	3579	4244	3752
65°	3362	3868	3427
70°	3076	3461	3061
75°	2709	2972	2658
80°	2230	2388	2149
85°	1562	1623	1461

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 5570 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.4	3.2
10°-20°	150.9	9.5
20°-30°	245.6	15.4
30°-40°	311.9	19.6
40°-50°	303.9	19.1
50°-60°	249.2	15.6
60°-70°	173.9	10.9
70°-80°	89.2	5.6
80°-90°	19.8	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°	446.9	28.0
0°-40°	758.8	47.6
0°-60°	1311.9	82.3
0°-90°	1594.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1594.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	525	525	525	525	525	
5°	519	527	524	528	533	49
15°	498	513	533	554	564	140
25°	456	486	528	582	607	210
35°	396	435	510	584	581	248
45°	326	366	446	408	394	251
55°	244	282	300	275	266	218
65°	161	184	185	170	164	159
75°	79	88	87	81	78	84
85°	15	16	16	15	14	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	524.8	524.8	524.8	524.8	524.8
2.5°	521.2	527.8	523.2	525.3	526.3
5°	519.1	526.8	524.2	527.8	533.0
7.5°	516.0	524.8	526.3	533.5	540.2
10°	511.4	521.7	527.8	540.2	547.9
12.5°	505.2	518.1	530.4	547.4	556.7
15°	498.0	513.4	533.0	554.1	564.4
17.5°	489.2	507.8	533.0	559.3	573.2
20°	479.4	501.1	532.0	566.0	584.5
22.5°	468.1	493.9	529.9	573.7	596.9
25°	456.3	485.6	527.8	582.4	607.2
27.5°	442.9	475.8	525.3	589.1	614.9
30°	428.5	464.0	522.2	592.2	619.5
32.5°	413.0	450.1	517.0	592.2	616.9
35°	396.5	435.2	510.3	584.5	580.9
37.5°	380.6	419.2	502.1	546.9	524.2
40°	362.0	402.2	490.8	493.9	475.3
42.5°	344.5	384.2	474.8	449.1	432.6
45°	325.5	365.6	445.5	408.4	394.5
47.5°	305.9	345.5	407.3	371.8	358.9
50°	285.3	325.5	369.8	337.3	326.0
52.5°	265.2	303.8	333.7	305.4	294.6
55°	244.1	281.7	300.2	275.0	265.7
57.5°	223.0	259.0	269.8	246.7	237.9
60°	202.4	234.8	240.0	219.9	212.2
62.5°	181.8	209.6	211.7	194.1	187.5
65°	160.7	183.8	184.9	169.9	163.8
67.5°	140.1	159.1	159.1	146.3	141.1
70°	119.0	134.9	133.9	123.6	118.4
72.5°	98.9	110.2	109.2	101.4	97.8
75°	79.3	88.1	87.0	80.9	77.8
77.5°	60.8	66.9	65.9	61.8	59.2
80°	43.8	47.4	46.9	43.8	42.2
82.5°	28.8	30.9	29.9	27.8	26.8
85°	15.4	16.0	16.0	14.9	14.4
87.5°	5.7	5.7	5.7	5.7	5.1
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	17.02	18.61	17.38	18.93	19.24	16.80	18.40	17.17	18.71	19.03
	3H	18.52	19.96	18.90	20.29	20.65	18.27	19.71	18.65	20.04	20.40
	4H	19.02	20.38	19.42	20.72	21.10	18.77	20.12	19.17	20.47	20.85
	6H	19.34	20.60	19.75	20.96	21.35	19.08	20.34	19.50	20.70	21.09
	8H	19.43	20.62	19.85	21.01	21.41	19.16	20.35	19.59	20.74	21.14
	12H	19.46	20.61	19.89	20.99	21.42	19.19	20.34	19.62	20.72	21.15
4H	2H	17.64	18.99	18.04	19.34	19.72	17.47	18.82	17.87	19.17	19.55
	3H	19.37	20.49	19.78	20.89	21.29	19.14	20.26	19.55	20.66	21.06
	4H	20.00	21.01	20.43	21.43	21.86	19.73	20.75	20.17	21.16	21.60
	6H	20.42	21.31	20.88	21.75	22.21	20.15	21.03	20.60	21.47	21.93
	8H	20.54	21.36	21.00	21.81	22.27	20.25	21.08	20.71	21.52	21.99
	12H	20.60	21.34	21.08	21.82	22.29	20.31	21.05	20.79	21.53	22.00
8H	4H	20.24	21.07	20.70	21.51	21.97	20.01	20.83	20.47	21.28	21.74
	6H	20.76	21.45	21.26	21.94	22.41	20.51	21.19	21.00	21.68	22.16
	8H	20.93	21.54	21.44	22.05	22.54	20.65	21.27	21.17	21.78	22.26
	12H	21.03	21.58	21.54	22.07	22.63	20.75	21.30	21.26	21.79	22.35
12H	4H	20.25	20.99	20.73	21.47	21.94	20.02	20.77	20.50	21.24	21.71
	6H	20.78	21.40	21.29	21.91	22.39	20.54	21.15	21.05	21.66	22.15
	8H	20.99	21.54	21.50	22.03	22.59	20.73	21.27	21.24	21.76	22.33