

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: P1439910

Luminaire Tested: S124DR-H290D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439910
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-H290D935-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

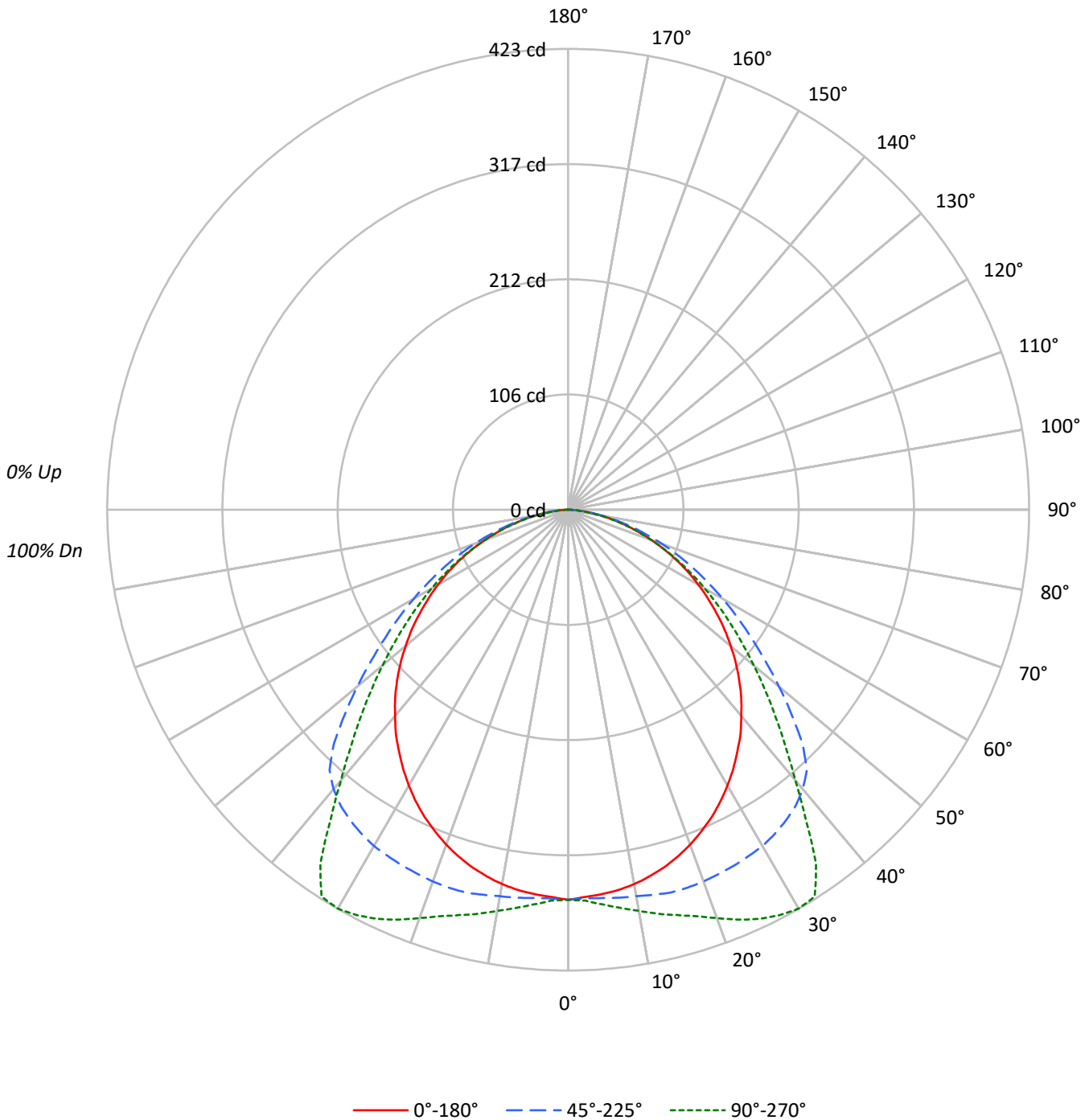
Lumens per Lamp: N/A
Luminaire Lumens: 1088.5 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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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CATALOG NUMBER: S124DR-H290D935-X4F0-XX-UDD-FLB-W

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	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	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85													85															
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71													71															
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60													60															
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52													52															
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45													45															
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39													39															
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35													35															
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31													31															
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28													28															
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25													25															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3166	3166	3166
5°	3144	3176	3229
10°	3133	3235	3358
15°	3111	3330	3526
20°	3079	3416	3753
25°	3038	3515	4043
30°	2985	3639	4316
35°	2921	3759	4280
40°	2852	3865	3744
45°	2777	3801	3366
50°	2678	3472	3060
55°	2568	3158	2796
60°	2442	2896	2560
65°	2295	2640	2339
70°	2099	2363	2089
75°	1848	2029	1814
80°	1522	1629	1466
85°	1065	1106	994

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3801 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.4	3.2
10°-20°	103.0	9.5
20°-30°	167.6	15.4
30°-40°	212.9	19.6
40°-50°	207.4	19.1
50°-60°	170.1	15.6
60°-70°	118.7	10.9
70°-80°	60.9	5.6
80°-90°	13.5	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°	305.0	28.0
0°-40°	517.9	47.6
0°-60°	895.4	82.3
0°-90°	1088.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1088.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	358	358	358	358	358	
5°	354	360	358	360	364	34
15°	340	350	364	378	385	96
25°	311	331	360	398	414	143
35°	271	297	348	399	396	169
45°	222	250	304	279	269	171
55°	167	192	205	188	181	149
65°	110	126	126	116	112	109
75°	54	60	59	55	53	58
85°	10	11	11	10	10	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	358.1	358.1	358.1	358.1	358.1
2.5°	355.7	360.3	357.1	358.5	359.2
5°	354.3	359.6	357.8	360.3	363.8
7.5°	352.2	358.1	359.2	364.1	368.7
10°	349.0	356.0	360.3	368.7	374.0
12.5°	344.8	353.6	362.0	373.6	379.9
15°	339.9	350.4	363.8	378.2	385.2
17.5°	333.9	346.5	363.8	381.7	391.2
20°	327.2	342.0	363.1	386.3	398.9
22.5°	319.5	337.1	361.7	391.5	407.3
25°	311.4	331.4	360.3	397.5	414.4
27.5°	302.3	324.8	358.5	402.1	419.7
30°	292.4	316.7	356.4	404.2	422.8
32.5°	281.9	307.2	352.9	404.2	421.1
35°	270.6	297.0	348.3	398.9	396.5
37.5°	259.7	286.1	342.7	373.3	357.8
40°	247.1	274.5	334.9	337.1	324.4
42.5°	235.1	262.2	324.1	306.5	295.2
45°	222.1	249.5	304.0	278.7	269.2
47.5°	208.8	235.8	278.0	253.8	245.0
50°	194.7	222.1	252.4	230.2	222.5
52.5°	181.0	207.4	227.8	208.4	201.0
55°	166.6	192.3	204.9	187.7	181.4
57.5°	152.2	176.8	184.2	168.4	162.4
60°	138.1	160.3	163.8	150.1	144.8
62.5°	124.1	143.0	144.5	132.5	127.9
65°	109.7	125.5	126.2	116.0	111.8
67.5°	95.6	108.6	108.6	99.8	96.3
70°	81.2	92.1	91.4	84.4	80.8
72.5°	67.5	75.2	74.5	69.2	66.8
75°	54.1	60.1	59.4	55.2	53.1
77.5°	41.5	45.7	45.0	42.2	40.4
80°	29.9	32.3	32.0	29.9	28.8
82.5°	19.7	21.1	20.4	19.0	18.3
85°	10.5	10.9	10.9	10.2	9.8
87.5°	3.9	3.9	3.9	3.9	3.5
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	15.69	17.29	16.05	17.60	17.92	15.47	17.07	15.84	17.39	17.70
	3H	17.19	18.63	17.57	18.96	19.32	16.94	18.38	17.32	18.71	19.07
	4H	17.69	19.05	18.09	19.40	19.77	17.44	18.79	17.84	19.14	19.52
	6H	18.02	19.27	18.43	19.63	20.02	17.76	19.01	18.17	19.37	19.77
	8H	18.10	19.29	18.52	19.68	20.08	17.83	19.03	18.26	19.42	19.82
	12H	18.14	19.28	18.57	19.66	20.09	17.87	19.01	18.30	19.39	19.82
4H	2H	16.31	17.66	16.71	18.01	18.39	16.14	17.50	16.54	17.84	18.22
	3H	18.04	19.17	18.45	19.57	19.97	17.81	18.94	18.22	19.34	19.74
	4H	18.67	19.69	19.10	20.10	20.54	18.41	19.42	18.84	19.84	20.27
	6H	19.10	19.98	19.55	20.42	20.88	18.82	19.71	19.27	20.15	20.60
	8H	19.21	20.04	19.67	20.48	20.95	18.92	19.75	19.38	20.19	20.66
	12H	19.27	20.02	19.75	20.49	20.96	18.98	19.72	19.46	20.20	20.67
8H	4H	18.91	19.74	19.37	20.18	20.65	18.68	19.51	19.14	19.95	20.42
	6H	19.43	20.12	19.93	20.61	21.08	19.18	19.87	19.67	20.35	20.83
	8H	19.60	20.21	20.11	20.72	21.21	19.33	19.94	19.84	20.45	20.94
	12H	19.71	20.25	20.22	20.74	21.31	19.43	19.97	19.93	20.46	21.02
12H	4H	18.92	19.66	19.40	20.14	20.61	18.70	19.44	19.18	19.92	20.39
	6H	19.46	20.07	19.97	20.58	21.07	19.21	19.83	19.72	20.33	20.82
	8H	19.67	20.21	20.17	20.70	21.26	19.40	19.95	19.91	20.44	21.00