

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: P1439912

Luminaire Tested: S124DR-H290D950-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439912
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-H290D950-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

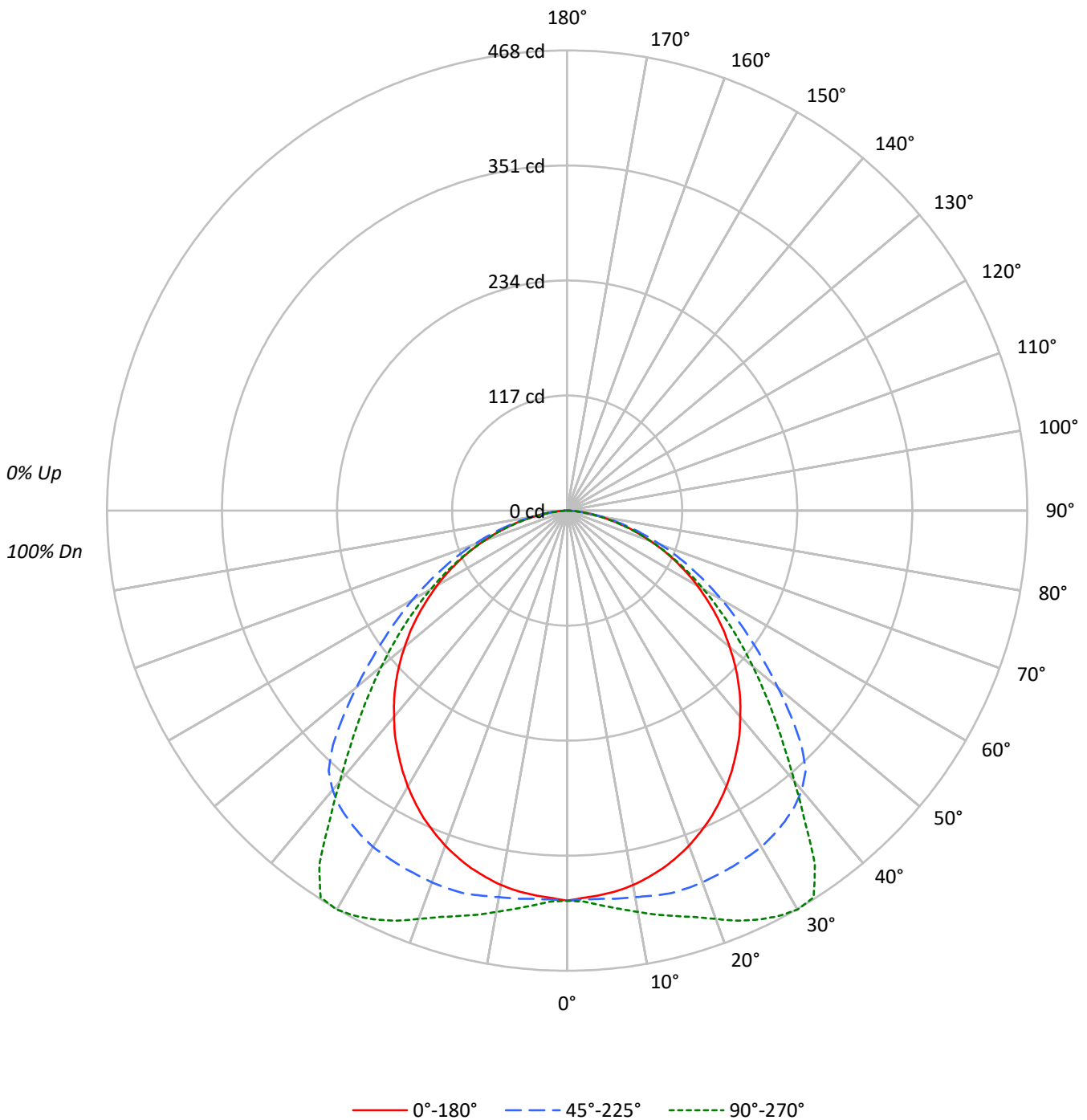
Lumens per Lamp: N/A
Luminaire Lumens: 1206.0 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (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	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°	3508	3508	3508
5°	3483	3518	3578
10°	3472	3584	3720
15°	3447	3690	3907
20°	3412	3785	4159
25°	3366	3894	4479
30°	3308	4032	4783
35°	3237	4165	4742
40°	3160	4283	4148
45°	3077	4212	3730
50°	2967	3846	3391
55°	2846	3499	3097
60°	2705	3209	2836
65°	2542	2925	2590
70°	2327	2619	2316
75°	2050	2248	2009
80°	1685	1802	1624
85°	1187	1227	1106

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 4212 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.1	3.2
10°-20°	114.1	9.5
20°-30°	185.7	15.4
30°-40°	235.9	19.6
40°-50°	229.8	19.1
50°-60°	188.4	15.6
60°-70°	131.5	10.9
70°-80°	67.5	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°	337.9	28.0
0°-40°	573.8	47.6
0°-60°	992.1	82.3
0°-90°	1206.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1206.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	397	397	397	397	397	
5°	392	398	396	399	403	37
15°	377	388	403	419	427	106
25°	345	367	399	440	459	159
35°	300	329	386	442	439	188
45°	246	276	337	309	298	190
55°	185	213	227	208	201	165
65°	122	139	140	128	124	120
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°	396.8	396.8	396.8	396.8	396.8
2.5°	394.1	399.2	395.7	397.2	398.0
5°	392.5	398.4	396.4	399.2	403.1
7.5°	390.2	396.8	398.0	403.5	408.5
10°	386.7	394.5	399.2	408.5	414.4
12.5°	382.0	391.8	401.1	414.0	421.0
15°	376.6	388.3	403.1	419.0	426.8
17.5°	370.0	384.0	403.1	422.9	433.4
20°	362.6	378.9	402.3	428.0	442.0
22.5°	354.0	373.5	400.7	433.8	451.4
25°	345.0	367.2	399.2	440.4	459.1
27.5°	334.9	359.8	397.2	445.5	465.0
30°	324.0	350.9	394.9	447.8	468.5
32.5°	312.3	340.4	391.0	447.8	466.5
35°	299.9	329.1	385.9	442.0	439.3
37.5°	287.8	317.0	379.7	413.6	396.4
40°	273.8	304.1	371.1	373.5	359.4
42.5°	260.5	290.5	359.1	339.6	327.1
45°	246.1	276.5	336.9	308.8	298.3
47.5°	231.3	261.3	308.0	281.2	271.4
50°	215.7	246.1	279.6	255.1	246.5
52.5°	200.6	229.8	252.4	230.9	222.8
55°	184.6	213.0	227.0	208.0	200.9
57.5°	168.6	195.9	204.1	186.5	179.9
60°	153.0	177.6	181.5	166.3	160.4
62.5°	137.5	158.5	160.1	146.8	141.8
65°	121.5	139.0	139.8	128.5	123.8
67.5°	105.9	120.3	120.3	110.6	106.7
70°	90.0	102.0	101.3	93.5	89.6
72.5°	74.8	83.3	82.6	76.7	74.0
75°	60.0	66.6	65.8	61.1	58.8
77.5°	46.0	50.6	49.8	46.7	44.8
80°	33.1	35.8	35.4	33.1	31.9
82.5°	21.8	23.4	22.6	21.0	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	17.64	16.41	17.96	18.27	15.83	17.43	16.19	17.74	18.06
	3H	17.55	18.99	17.93	19.31	19.68	17.30	18.74	17.68	19.07	19.43
	4H	18.05	19.40	18.45	19.75	20.13	17.80	19.15	18.19	19.50	19.87
	6H	18.37	19.62	18.78	19.99	20.38	18.11	19.36	18.52	19.73	20.12
	8H	18.45	19.65	18.88	20.04	20.44	18.19	19.38	18.61	19.77	20.17
	12H	18.49	19.64	18.92	20.02	20.45	18.22	19.37	18.65	19.75	20.18
4H	2H	16.67	18.02	17.07	18.37	18.75	16.50	17.85	16.90	18.20	18.57
	3H	18.40	19.52	18.81	19.92	20.32	18.16	19.29	18.57	19.69	20.09
	4H	19.02	20.04	19.46	20.46	20.89	18.76	19.78	19.19	20.19	20.63
	6H	19.45	20.34	19.91	20.78	21.24	19.17	20.06	19.63	20.50	20.96
	8H	19.57	20.39	20.03	20.84	21.30	19.28	20.11	19.74	20.55	21.01
	12H	19.63	20.37	20.11	20.85	21.32	19.34	20.08	19.82	20.55	21.02
8H	4H	19.27	20.09	19.73	20.54	21.00	19.03	19.86	19.49	20.30	20.77
	6H	19.79	20.48	20.28	20.96	21.44	19.53	20.22	20.03	20.71	21.18
	8H	19.95	20.57	20.47	21.08	21.56	19.68	20.30	20.19	20.81	21.29
	12H	20.06	20.61	20.57	21.10	21.66	19.78	20.33	20.29	20.82	21.38
12H	4H	19.28	20.02	19.76	20.50	20.97	19.05	19.79	19.53	20.27	20.74
	6H	19.81	20.43	20.32	20.94	21.42	19.56	20.18	20.07	20.69	21.17
	8H	20.02	20.57	20.53	21.06	21.62	19.76	20.30	20.26	20.79	21.35