

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: P1439907

Luminaire Tested: S124DR-H290D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439907
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-H290D850-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

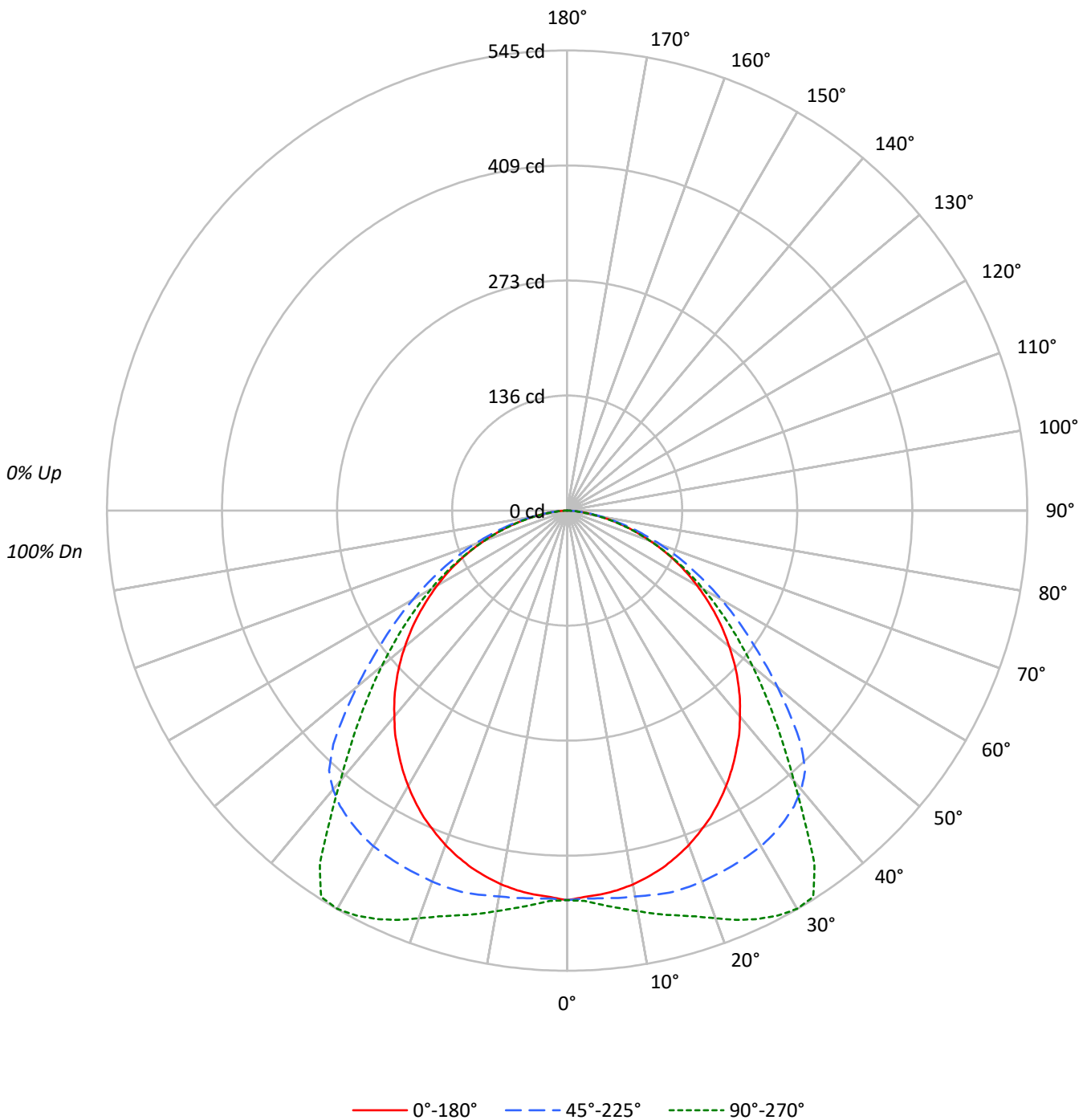
Lumens per Lamp: N/A
Luminaire Lumens: 1401.9 lumens
Efficiency: N/A
Efficacy: 119.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	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°	4079	4079	4079
5°	4050	4091	4158
10°	4036	4166	4325
15°	4007	4288	4542
20°	3966	4400	4834
25°	3913	4526	5206
30°	3845	4686	5560
35°	3763	4842	5511
40°	3674	4979	4822
45°	3577	4896	4336
50°	3450	4470	3942
55°	3308	4068	3601
60°	3146	3731	3298
65°	2954	3400	3013
70°	2704	3043	2691
75°	2381	2613	2337
80°	1960	2098	1889
85°	1380	1420	1288

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 4896 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.3	3.2
10°-20°	132.6	9.5
20°-30°	215.9	15.4
30°-40°	274.2	19.6
40°-50°	267.2	19.1
50°-60°	219.0	15.6
60°-70°	152.8	10.9
70°-80°	78.4	5.6
80°-90°	17.4	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°	392.8	28.0
0°-40°	667.0	47.6
0°-60°	1153.2	82.3
0°-90°	1401.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1401.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	461	461	461	461	461	
5°	456	463	461	464	468	43
15°	438	451	468	487	496	123
25°	401	427	464	512	534	185
35°	349	382	449	514	511	218
45°	286	321	392	359	347	220
55°	215	248	264	242	234	192
65°	141	162	162	149	144	140
75°	70	77	76	71	68	74
85°	14	14	14	13	13	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	461.3	461.3	461.3	461.3	461.3
2.5°	458.1	464.0	459.9	461.8	462.7
5°	456.3	463.1	460.9	464.0	468.5
7.5°	453.6	461.3	462.7	469.0	474.9
10°	449.5	458.6	464.0	474.9	481.7
12.5°	444.1	455.4	466.3	481.2	489.4
15°	437.8	451.3	468.5	487.1	496.2
17.5°	430.1	446.4	468.5	491.6	503.9
20°	421.5	440.5	467.6	497.5	513.8
22.5°	411.5	434.1	465.8	504.3	524.7
25°	401.1	426.9	464.0	512.0	533.7
27.5°	389.3	418.3	461.8	517.9	540.5
30°	376.6	407.9	459.0	520.6	544.6
32.5°	363.1	395.7	454.5	520.6	542.3
35°	348.6	382.5	448.6	513.8	510.6
37.5°	334.5	368.5	441.4	480.8	460.9
40°	318.3	353.6	431.4	434.1	417.8
42.5°	302.9	337.7	417.4	394.8	380.3
45°	286.1	321.4	391.6	359.0	346.8
47.5°	268.9	303.8	358.1	326.9	315.5
50°	250.8	286.1	325.0	296.5	286.6
52.5°	233.1	267.1	293.4	268.5	258.9
55°	214.6	247.6	263.9	241.7	233.6
57.5°	196.0	227.7	237.2	216.8	209.1
60°	177.9	206.4	211.0	193.3	186.5
62.5°	159.8	184.3	186.1	170.7	164.8
65°	141.2	161.6	162.5	149.4	144.0
67.5°	123.1	139.9	139.9	128.6	124.0
70°	104.6	118.6	117.7	108.6	104.1
72.5°	86.9	96.9	96.0	89.2	86.0
75°	69.7	77.4	76.5	71.1	68.4
77.5°	53.4	58.9	57.9	54.3	52.1
80°	38.5	41.6	41.2	38.5	37.1
82.5°	25.4	27.2	26.3	24.4	23.5
85°	13.6	14.0	14.0	13.1	12.7
87.5°	5.0	5.0	5.0	5.0	4.5
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	16.57	18.17	16.93	18.48	18.80	16.35	17.95	16.72	18.26	18.58
	3H	18.07	19.51	18.45	19.84	20.20	17.82	19.26	18.20	19.59	19.95
	4H	18.57	19.93	18.97	20.27	20.65	18.32	19.67	18.72	20.02	20.40
	6H	18.89	20.15	19.31	20.51	20.90	18.64	19.89	19.05	20.25	20.64
	8H	18.98	20.17	19.40	20.56	20.96	18.71	19.91	19.14	20.29	20.69
	12H	19.02	20.16	19.45	20.54	20.97	18.75	19.89	19.18	20.27	20.70
4H	2H	17.19	18.54	17.59	18.89	19.27	17.02	18.37	17.42	18.72	19.10
	3H	18.92	20.05	19.33	20.45	20.85	18.69	19.81	19.10	20.21	20.61
	4H	19.55	20.56	19.98	20.98	21.41	19.28	20.30	19.72	20.72	21.15
	6H	19.98	20.86	20.43	21.30	21.76	19.70	20.58	20.15	21.02	21.48
	8H	20.09	20.92	20.55	21.36	21.83	19.80	20.63	20.26	21.07	21.54
	12H	20.15	20.90	20.63	21.37	21.84	19.86	20.60	20.34	21.08	21.55
8H	4H	19.79	20.62	20.25	21.06	21.53	19.56	20.38	20.02	20.83	21.29
	6H	20.31	21.00	20.81	21.49	21.96	20.06	20.74	20.55	21.23	21.71
	8H	20.48	21.09	20.99	21.60	22.09	20.21	20.82	20.72	21.33	21.81
	12H	20.59	21.13	21.10	21.62	22.18	20.30	20.85	20.81	21.34	21.90
12H	4H	19.80	20.54	20.28	21.02	21.49	19.57	20.32	20.06	20.79	21.26
	6H	20.33	20.95	20.85	21.46	21.95	20.09	20.70	20.60	21.21	21.70
	8H	20.54	21.09	21.05	21.58	22.14	20.28	20.82	20.79	21.32	21.88