

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: P1056009

Luminaire Tested: S124R3DR-S350D830-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056009
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-7)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-S350D830-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

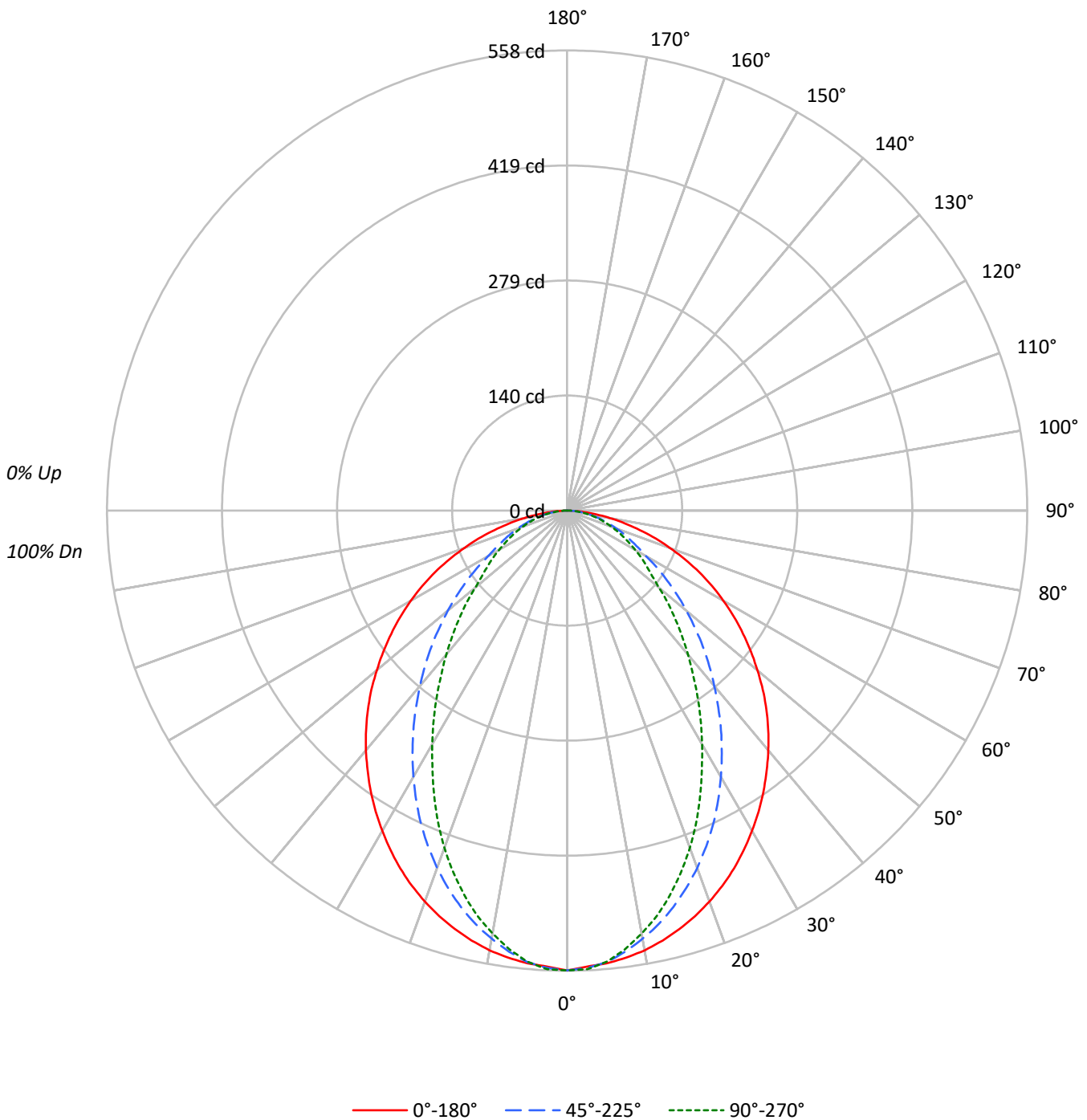
Lumens per Lamp: N/A
Luminaire Lumens: 1110.4 lumens
Efficiency: N/A
Efficacy: 88.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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	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	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86				86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73				73
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63				63
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55				55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49				49
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43				43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39				39
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35				35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32				32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29				29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4929	4929	4929
5°	4890	4879	4875
10°	4861	4733	4674
15°	4810	4555	4416
20°	4748	4338	4096
25°	4671	4090	3722
30°	4578	3807	3342
35°	4481	3511	2976
40°	4380	3205	2633
45°	4272	2908	2313
50°	4142	2596	1997
55°	4015	2283	1814
60°	3874	1959	1683
65°	3699	1776	1571
70°	3436	1644	1484
75°	3112	1513	1401
80°	2714	1400	1314
85°	2080	1288	1207

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4272 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.9	4.7
10°-20°	140.8	12.7
20°-30°	195.0	17.6
30°-40°	209.2	18.8
40°-50°	190.3	17.1
50°-60°	149.8	13.5
60°-70°	102.6	9.2
70°-80°	55.2	5.0
80°-90°	15.6	1.4
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°	387.7	34.9
0°-40°	596.9	53.8
0°-60°	937.0	84.4
0°-90°	1110.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1110.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	558	558	558	558	558	
5°	551	557	550	547	549	52
15°	526	520	498	484	482	148
25°	479	459	419	389	382	220
35°	415	383	325	286	276	260
45°	342	298	233	192	185	263
55°	260	211	148	119	118	233
65°	177	126	85	76	75	174
75°	91	55	44	41	41	97
85°	20	14	13	12	12	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	557.5	557.5	557.5	557.5	557.5
2.5°	553.4	560.0	555.1	555.9	556.7
5°	551.0	557.1	549.7	546.9	549.3
7.5°	546.9	551.0	539.5	534.1	536.6
10°	541.5	542.4	527.2	519.4	520.6
12.5°	534.1	532.1	513.6	502.6	503.4
15°	525.5	519.8	497.6	484.1	482.5
17.5°	515.7	506.2	480.0	462.8	459.5
20°	504.6	491.9	461.1	439.0	435.3
22.5°	492.3	475.9	440.6	414.4	409.0
25°	478.8	459.1	419.3	388.9	381.5
27.5°	464.0	441.0	396.3	363.1	353.6
30°	448.4	422.1	372.9	337.2	327.4
32.5°	432.4	402.9	349.1	311.4	301.1
35°	415.2	382.8	325.3	285.9	275.7
37.5°	397.5	361.8	301.1	261.3	250.7
40°	379.5	340.9	277.7	236.7	228.1
42.5°	361.0	319.6	254.8	213.7	205.9
45°	341.7	298.3	232.6	192.4	185.0
47.5°	322.0	276.5	210.0	172.3	165.3
50°	301.1	254.8	188.7	152.6	145.2
52.5°	281.0	232.6	168.2	133.3	129.6
55°	260.5	210.9	148.1	119.4	117.7
57.5°	240.0	189.1	129.6	108.3	106.7
60°	219.1	167.8	110.8	96.8	95.2
62.5°	198.2	146.9	96.8	85.7	84.9
65°	176.8	126.4	84.9	75.5	75.1
67.5°	154.3	106.7	74.3	66.5	66.1
70°	132.9	87.0	63.6	57.4	57.4
72.5°	112.8	68.9	53.7	48.8	48.8
75°	91.1	55.4	44.3	40.6	41.0
77.5°	71.8	43.5	35.7	33.2	33.2
80°	53.3	32.4	27.5	25.4	25.8
82.5°	36.1	22.6	19.7	18.5	18.5
85°	20.5	13.9	12.7	11.9	11.9
87.5°	7.4	6.6	6.2	5.3	5.7
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	16.68	18.21	17.05	18.52	18.84	12.46	13.99	12.83	14.30	14.61
	3H	18.46	19.83	18.84	20.16	20.52	14.07	15.44	14.45	15.77	16.13
	4H	19.13	20.42	19.53	20.77	21.14	14.70	15.99	15.10	16.34	16.72
	6H	19.64	20.83	20.05	21.20	21.59	15.20	16.39	15.61	16.76	17.15
	8H	19.80	20.94	20.23	21.33	21.73	15.37	16.51	15.80	16.89	17.30
	12H	19.90	20.99	20.33	21.37	21.80	15.50	16.58	15.93	16.96	17.39
4H	2H	16.78	18.06	17.18	18.41	18.79	13.18	14.47	13.58	14.81	15.19
	3H	18.72	19.79	19.13	20.19	20.59	14.99	16.06	15.40	16.46	16.86
	4H	19.48	20.44	19.91	20.86	21.30	15.72	16.69	16.16	17.10	17.54
	6H	20.11	20.95	20.57	21.40	21.86	16.34	17.18	16.80	17.62	18.08
	8H	20.33	21.12	20.80	21.56	22.03	16.56	17.34	17.02	17.78	18.25
	12H	20.49	21.19	20.97	21.67	22.14	16.72	17.42	17.20	17.90	18.37
8H	4H	19.54	20.32	20.00	20.77	21.23	16.11	16.90	16.58	17.34	17.81
	6H	20.24	20.89	20.73	21.38	21.85	16.84	17.49	17.34	17.98	18.46
	8H	20.50	21.09	21.02	21.60	22.08	17.13	17.71	17.65	18.22	18.71
	12H	20.72	21.24	21.23	21.73	22.29	17.38	17.89	17.89	18.38	18.95
12H	4H	19.53	20.23	20.01	20.71	21.18	16.17	16.87	16.65	17.35	17.82
	6H	20.23	20.81	20.74	21.32	21.81	16.93	17.51	17.44	18.02	18.51
	8H	20.54	21.05	21.05	21.54	22.11	17.28	17.79	17.78	18.28	18.85