

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: P1056016

Luminaire Tested: S124R3DR-S350D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056016
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-S350D850-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

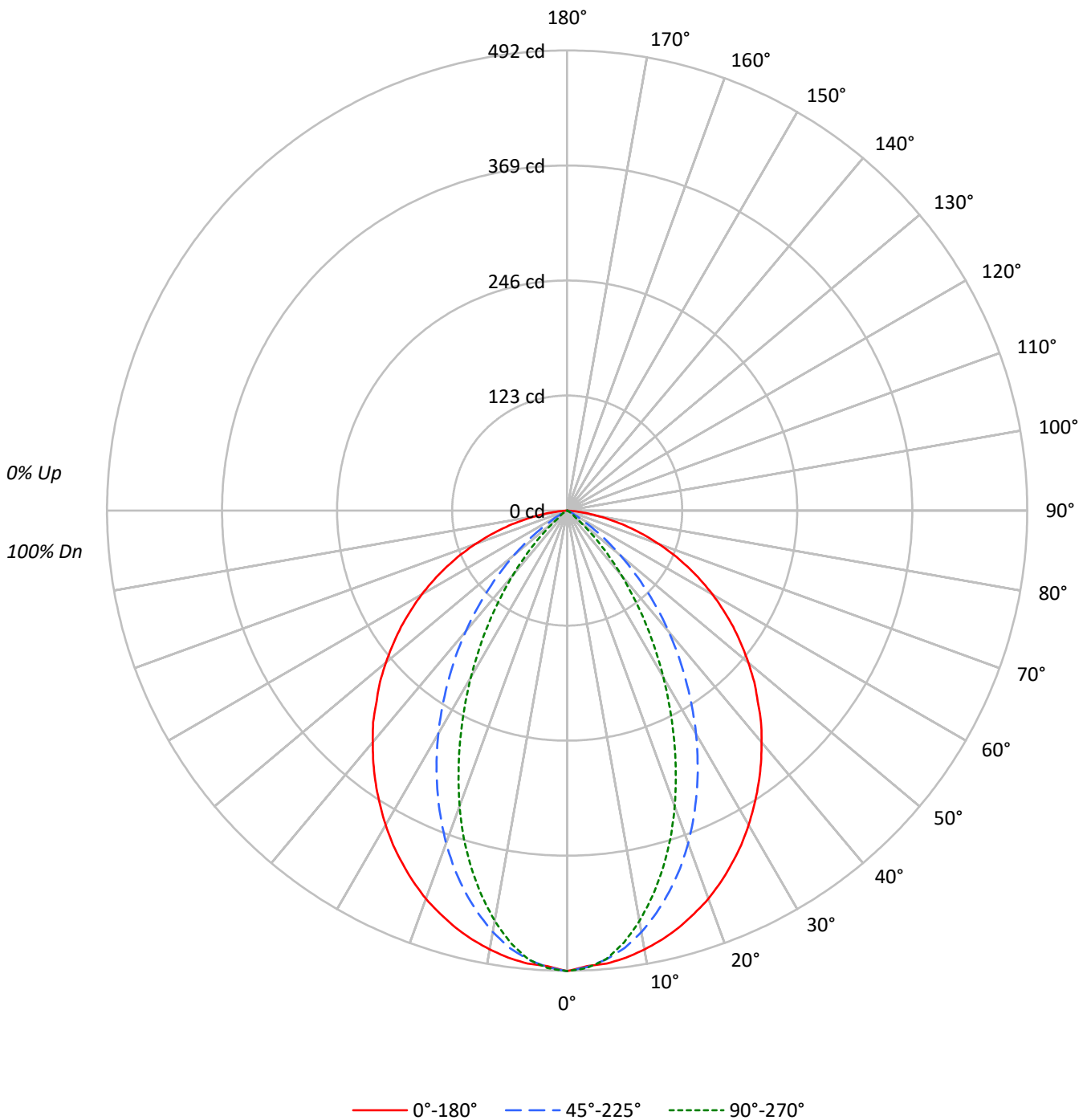
Lumens per Lamp: N/A
Luminaire Lumens: 688.2 lumens
Efficiency: N/A
Efficacy: 54.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4353	4353	4353
5°	4314	4275	4272
10°	4277	4108	4000
15°	4224	3862	3623
20°	4156	3560	3165
25°	4064	3207	2642
30°	3962	2814	2099
35°	3850	2386	1563
40°	3733	1945	1042
45°	3604	1484	574
50°	3479	1016	160
55°	3340	550	105
60°	3176	172	60
65°	2969	111	29
70°	2683	49	13
75°	2309	17	0
80°	1746	0	0
85°	730	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3604 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	6.6
10°-20°	119.2	17.3
20°-30°	154.1	22.4
30°-40°	147.3	21.4
40°-50°	110.1	16.0
50°-60°	65.6	9.5
60°-70°	33.3	4.8
70°-80°	11.6	1.7
80°-90°	1.6	0.2
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°	318.8	46.3
0°-40°	466.0	67.7
0°-60°	641.7	93.3
0°-90°	688.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	688.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	492	492	492	492	492	
5°	486	490	482	479	481	46
15°	462	452	422	402	396	130
25°	417	388	329	285	271	192
35°	357	308	221	165	145	223
45°	288	221	119	63	46	223
55°	217	135	36	8	7	193
65°	142	54	5	2	1	140
75°	68	7	0	0	0	72
85°	7	0	0	0	0	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	492.4	492.4	492.4	492.4	492.4
2.5°	487.5	493.3	488.5	489.0	489.5
5°	486.1	489.9	481.7	479.3	481.3
7.5°	482.2	483.7	471.6	465.3	465.8
10°	476.4	475.0	457.6	447.0	445.5
12.5°	469.7	464.8	440.7	425.3	421.9
15°	461.5	451.8	421.9	402.1	395.8
17.5°	451.8	437.8	401.1	375.1	367.3
20°	441.7	422.4	378.4	346.1	336.4
22.5°	429.6	405.0	353.8	315.7	303.6
25°	416.6	387.6	328.7	285.3	270.8
27.5°	403.1	368.8	302.2	254.4	237.5
30°	388.1	349.0	275.6	223.0	205.6
32.5°	372.6	328.7	248.1	194.0	174.7
35°	356.7	307.5	221.1	164.6	144.8
37.5°	340.3	286.2	195.0	136.6	116.3
40°	323.4	264.5	168.5	110.1	90.3
42.5°	307.0	242.8	143.4	85.0	66.6
45°	288.2	221.1	118.7	63.2	45.9
47.5°	271.3	199.8	95.1	43.0	27.0
50°	252.9	177.2	73.9	25.1	11.6
52.5°	234.6	155.9	54.1	11.1	8.7
55°	216.7	134.7	35.7	8.2	6.8
57.5°	197.9	113.4	19.3	6.3	4.8
60°	179.6	92.7	9.7	4.8	3.4
62.5°	160.7	72.9	7.7	2.9	1.9
65°	141.9	54.5	5.3	1.9	1.4
67.5°	123.1	37.2	3.4	1.0	0.5
70°	103.8	22.7	1.9	0.5	0.5
72.5°	85.4	11.6	1.0	0.5	0.5
75°	67.6	7.2	0.5	0.5	0.0
77.5°	50.2	3.9	0.5	0.5	0.0
80°	34.3	1.4	0.0	0.0	0.0
82.5°	19.8	0.5	0.0	0.0	0.0
85°	7.2	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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	15.56	16.89	15.93	17.21	17.52	0.00	0.00	0.00	0.00	0.00
	3H	17.11	18.28	17.49	18.61	18.98	0.00	0.00	0.00	0.00	0.00
	4H	17.70	18.80	18.10	19.15	19.53	0.00	0.00	0.00	0.00	0.00
	6H	18.12	19.12	18.53	19.50	19.89	0.00	0.00	0.00	0.00	0.00
	8H	18.22	19.17	18.65	19.56	19.97	0.00	0.00	0.00	0.00	0.00
	12H	18.24	19.15	18.67	19.53	19.96	0.00	0.00	0.00	0.00	0.00
4H	2H	15.34	16.44	15.74	16.79	17.17	0.00	0.00	0.00	0.00	0.00
	3H	16.91	17.80	17.32	18.20	18.61	0.00	0.00	0.00	0.00	0.00
	4H	17.49	18.29	17.92	18.71	19.15	0.00	0.00	0.00	0.00	0.00
	6H	17.95	18.64	18.41	19.08	19.55	0.00	0.00	0.00	0.00	0.00
	8H	18.07	18.71	18.54	19.16	19.63	0.00	0.00	0.00	0.00	0.00
	12H	18.11	18.68	18.60	19.16	19.63	0.00	0.00	0.00	0.00	0.00
8H	4H	17.35	17.99	17.82	18.44	18.91	0.00	0.00	0.00	0.00	0.00
	6H	17.79	18.32	18.30	18.81	19.29	0.00	0.00	0.00	0.00	0.00
	8H	17.91	18.38	18.43	18.90	19.39	0.00	0.00	0.00	0.00	0.00
	12H	17.96	18.37	18.48	18.87	19.44	0.00	0.00	0.00	0.00	0.00
12H	4H	17.31	17.87	17.79	18.36	18.83	0.00	0.00	0.00	0.00	0.00
	6H	17.73	18.20	18.25	18.72	19.21	0.00	0.00	0.00	0.00	0.00
	8H	17.87	18.28	18.38	18.78	19.35	0.00	0.00	0.00	0.00	0.00