

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: P1056153

Luminaire Tested: S124R3DR-H350D850-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056153
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-H350D850-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

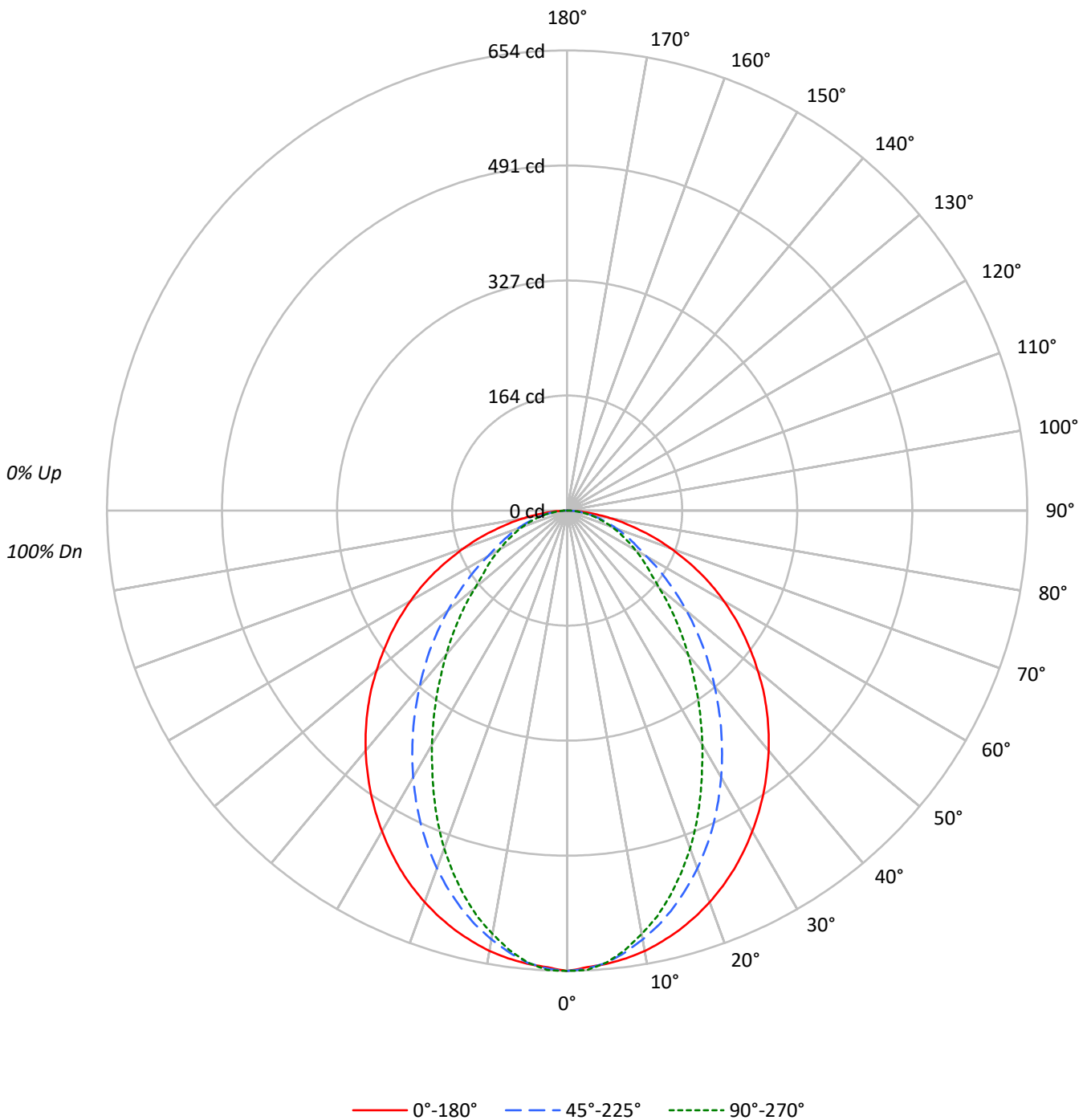
Lumens per Lamp: N/A
Luminaire Lumens: 1303.4 lumens
Efficiency: N/A
Efficacy: 111.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5786	5786	5786
5°	5740	5726	5723
10°	5706	5555	5485
15°	5646	5346	5183
20°	5573	5092	4807
25°	5482	4801	4368
30°	5373	4469	3923
35°	5260	4121	3493
40°	5141	3763	3090
45°	5015	3413	2716
50°	4861	3047	2345
55°	4714	2679	2130
60°	4546	2299	1975
65°	4341	2086	1843
70°	4033	1928	1742
75°	3652	1776	1647
80°	3187	1645	1543
85°	2445	1512	1420

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5015 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.9	4.7
10°-20°	165.3	12.7
20°-30°	228.8	17.6
30°-40°	245.6	18.8
40°-50°	223.3	17.1
50°-60°	175.9	13.5
60°-70°	120.4	9.2
70°-80°	64.8	5.0
80°-90°	18.4	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°	455.0	34.9
0°-40°	700.6	53.8
0°-60°	1099.8	84.4
0°-90°	1303.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1303.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	654	654	654	654	654	
5°	647	654	645	642	645	61
15°	617	610	584	568	566	174
25°	562	539	492	456	448	259
35°	487	449	382	336	324	305
45°	401	350	273	226	217	309
55°	306	248	174	140	138	273
65°	208	148	100	89	88	205
75°	107	65	52	48	48	114
85°	24	16	15	14	14	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	654.4	654.4	654.4	654.4	654.4
2.5°	649.6	657.3	651.5	652.5	653.4
5°	646.7	653.9	645.2	641.9	644.8
7.5°	641.9	646.7	633.2	626.9	629.8
10°	635.6	636.6	618.8	609.6	611.0
12.5°	626.9	624.5	602.9	589.9	590.8
15°	616.8	610.1	584.1	568.2	566.3
17.5°	605.3	594.2	563.4	543.2	539.3
20°	592.3	577.3	541.2	515.2	510.9
22.5°	577.8	558.6	517.2	486.3	480.1
25°	561.9	538.8	492.1	456.5	447.8
27.5°	544.6	517.6	465.1	426.1	415.1
30°	526.3	495.5	437.7	395.8	384.3
32.5°	507.5	472.9	409.8	365.5	353.4
35°	487.3	449.3	381.8	335.6	323.6
37.5°	466.6	424.7	353.4	306.7	294.2
40°	445.4	400.1	326.0	277.8	267.7
42.5°	423.7	375.1	299.0	250.9	241.7
45°	401.1	350.1	273.0	225.8	217.2
47.5°	378.0	324.5	246.5	202.2	194.1
50°	353.4	299.0	221.5	179.1	170.5
52.5°	329.8	273.0	197.4	156.5	152.2
55°	305.8	247.5	173.8	140.1	138.2
57.5°	281.7	222.0	152.2	127.1	125.2
60°	257.1	196.9	130.0	113.6	111.7
62.5°	232.6	172.4	113.6	100.6	99.7
65°	207.5	148.3	99.7	88.6	88.1
67.5°	181.1	125.2	87.2	78.0	77.5
70°	156.0	102.1	74.6	67.4	67.4
72.5°	132.4	80.9	63.1	57.3	57.3
75°	106.9	65.0	52.0	47.7	48.2
77.5°	84.3	51.0	41.9	39.0	39.0
80°	62.6	38.0	32.3	29.9	30.3
82.5°	42.4	26.5	23.1	21.7	21.7
85°	24.1	16.4	14.9	14.0	14.0
87.5°	8.7	7.7	7.2	6.3	6.7
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	17.24	18.77	17.61	19.08	19.39	13.02	14.54	13.38	14.86	15.17
	3H	19.02	20.39	19.39	20.71	21.08	14.63	16.00	15.01	16.33	16.69
	4H	19.69	20.97	20.09	21.32	21.70	15.26	16.55	15.66	16.90	17.27
	6H	20.20	21.39	20.61	21.75	22.14	15.76	16.95	16.17	17.31	17.71
	8H	20.36	21.49	20.79	21.88	22.28	15.93	17.06	16.36	17.45	17.85
	12H	20.46	21.54	20.89	21.93	22.36	16.05	17.14	16.48	17.52	17.95
4H	2H	17.34	18.62	17.74	18.97	19.35	13.74	15.02	14.14	15.37	15.75
	3H	19.28	20.35	19.69	20.75	21.15	15.54	16.61	15.95	17.01	17.41
	4H	20.04	21.00	20.47	21.42	21.85	16.28	17.25	16.71	17.66	18.10
	6H	20.67	21.51	21.13	21.95	22.41	16.90	17.74	17.35	18.18	18.64
	8H	20.89	21.68	21.35	22.12	22.59	17.11	17.90	17.58	18.34	18.81
	12H	21.05	21.75	21.53	22.23	22.70	17.28	17.98	17.76	18.46	18.93
8H	4H	20.09	20.88	20.56	21.32	21.79	16.67	17.45	17.13	17.90	18.37
	6H	20.79	21.44	21.29	21.93	22.41	17.40	18.05	17.90	18.54	19.02
	8H	21.06	21.64	21.57	22.15	22.64	17.69	18.27	18.20	18.78	19.27
	12H	21.28	21.79	21.79	22.29	22.85	17.94	18.45	18.45	18.94	19.51
12H	4H	20.09	20.79	20.57	21.26	21.74	16.73	17.43	17.21	17.90	18.38
	6H	20.79	21.37	21.30	21.88	22.37	17.48	18.07	18.00	18.58	19.07
	8H	21.09	21.61	21.60	22.10	22.67	17.83	18.35	18.34	18.84	19.41