

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: P1056166

Luminaire Tested: S124R3DR-H350D950-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056166
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-H350D950-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

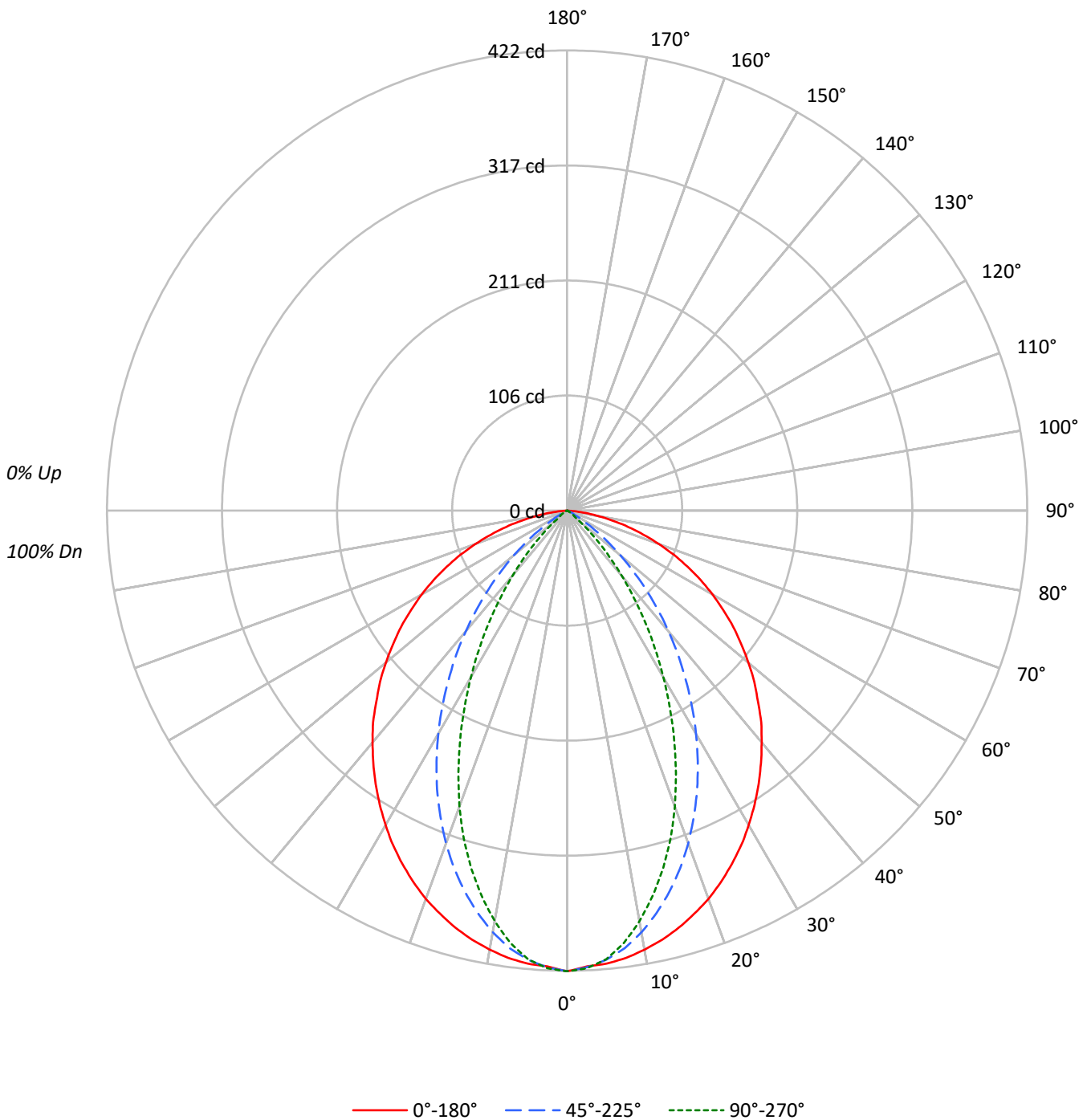
Lumens per Lamp: N/A
Luminaire Lumens: 590.5 lumens
Efficiency: N/A
Efficacy: 50.5 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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	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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71					71			
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64					64			
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57					57			
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52					52			
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47					47			
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43					43			
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40					40			
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37					37			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3735	3735	3735
5°	3702	3669	3665
10°	3670	3526	3432
15°	3625	3313	3109
20°	3566	3055	2716
25°	3488	2752	2267
30°	3400	2414	1802
35°	3304	2047	1342
40°	3203	1669	894
45°	3092	1274	493
50°	2986	872	136
55°	2867	473	89
60°	2725	147	51
65°	2548	96	25
70°	2303	44	10
75°	1981	14	0
80°	1497	0	0
85°	629	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3092 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.0	6.6
10°-20°	102.3	17.3
20°-30°	132.2	22.4
30°-40°	126.4	21.4
40°-50°	94.5	16.0
50°-60°	56.2	9.5
60°-70°	28.6	4.8
70°-80°	9.9	1.7
80°-90°	1.4	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°	273.5	46.3
0°-40°	399.9	67.7
0°-60°	550.7	93.3
0°-90°	590.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	590.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	422	422	422	422	422	
5°	417	420	413	411	413	40
15°	396	388	362	345	340	112
25°	358	333	282	245	232	165
35°	306	264	190	141	124	191
45°	247	190	102	54	39	191
55°	186	116	31	7	6	166
65°	122	47	5	2	1	120
75°	58	6	0	0	0	62
85°	6	0	0	0	0	10
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	422.5	422.5	422.5	422.5	422.5
2.5°	418.4	423.3	419.2	419.6	420.0
5°	417.1	420.4	413.4	411.3	413.0
7.5°	413.8	415.0	404.7	399.3	399.7
10°	408.8	407.6	392.7	383.6	382.3
12.5°	403.0	398.9	378.2	364.9	362.0
15°	396.0	387.7	362.0	345.0	339.7
17.5°	387.7	375.7	344.2	321.8	315.2
20°	379.0	362.4	324.7	297.0	288.7
22.5°	368.7	347.5	303.6	270.9	260.5
25°	357.5	332.6	282.1	244.8	232.4
27.5°	345.9	316.5	259.3	218.3	203.8
30°	333.0	299.5	236.5	191.4	176.5
32.5°	319.8	282.1	212.9	166.5	149.9
35°	306.1	263.9	189.7	141.2	124.3
37.5°	292.0	245.6	167.3	117.2	99.8
40°	277.5	227.0	144.6	94.4	77.5
42.5°	263.4	208.4	123.0	72.9	57.2
45°	247.3	189.7	101.9	54.3	39.4
47.5°	232.8	171.5	81.6	36.9	23.2
50°	217.1	152.0	63.4	21.5	9.9
52.5°	201.3	133.8	46.4	9.5	7.5
55°	186.0	115.6	30.7	7.0	5.8
57.5°	169.8	97.3	16.6	5.4	4.1
60°	154.1	79.5	8.3	4.1	2.9
62.5°	137.9	62.5	6.6	2.5	1.7
65°	121.8	46.8	4.6	1.7	1.2
67.5°	105.6	31.9	2.9	0.8	0.4
70°	89.1	19.5	1.7	0.4	0.4
72.5°	73.3	9.9	0.8	0.4	0.4
75°	58.0	6.2	0.4	0.4	0.0
77.5°	43.1	3.3	0.4	0.4	0.0
80°	29.4	1.2	0.0	0.0	0.0
82.5°	17.0	0.4	0.0	0.0	0.0
85°	6.2	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	15.03	16.36	15.40	16.67	16.99	0.00	0.00	0.00	0.00	0.00
	3H	16.58	17.75	16.96	18.08	18.45	0.00	0.00	0.00	0.00	0.00
	4H	17.17	18.26	17.57	18.62	19.00	0.00	0.00	0.00	0.00	0.00
	6H	17.59	18.59	18.00	18.96	19.36	0.00	0.00	0.00	0.00	0.00
	8H	17.69	18.64	18.12	19.03	19.43	0.00	0.00	0.00	0.00	0.00
	12H	17.70	18.61	18.14	19.00	19.43	0.00	0.00	0.00	0.00	0.00
4H	2H	14.81	15.90	15.21	16.26	16.64	0.00	0.00	0.00	0.00	0.00
	3H	16.37	17.27	16.79	17.67	18.08	0.00	0.00	0.00	0.00	0.00
	4H	16.96	17.76	17.39	18.17	18.62	0.00	0.00	0.00	0.00	0.00
	6H	17.42	18.10	17.88	18.55	19.02	0.00	0.00	0.00	0.00	0.00
	8H	17.54	18.18	18.01	18.63	19.10	0.00	0.00	0.00	0.00	0.00
	12H	17.58	18.14	18.06	18.63	19.10	0.00	0.00	0.00	0.00	0.00
8H	4H	16.82	17.46	17.29	17.91	18.38	0.00	0.00	0.00	0.00	0.00
	6H	17.26	17.78	17.76	18.28	18.76	0.00	0.00	0.00	0.00	0.00
	8H	17.38	17.85	17.90	18.36	18.85	0.00	0.00	0.00	0.00	0.00
	12H	17.43	17.84	17.94	18.34	18.91	0.00	0.00	0.00	0.00	0.00
12H	4H	16.78	17.34	17.26	17.82	18.30	0.00	0.00	0.00	0.00	0.00
	6H	17.20	17.67	17.72	18.18	18.68	0.00	0.00	0.00	0.00	0.00
	8H	17.34	17.75	17.85	18.24	18.81	0.00	0.00	0.00	0.00	0.00