

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: P1056032

Luminaire Tested: S124R3DR-S350D950-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056032
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-S350D950-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

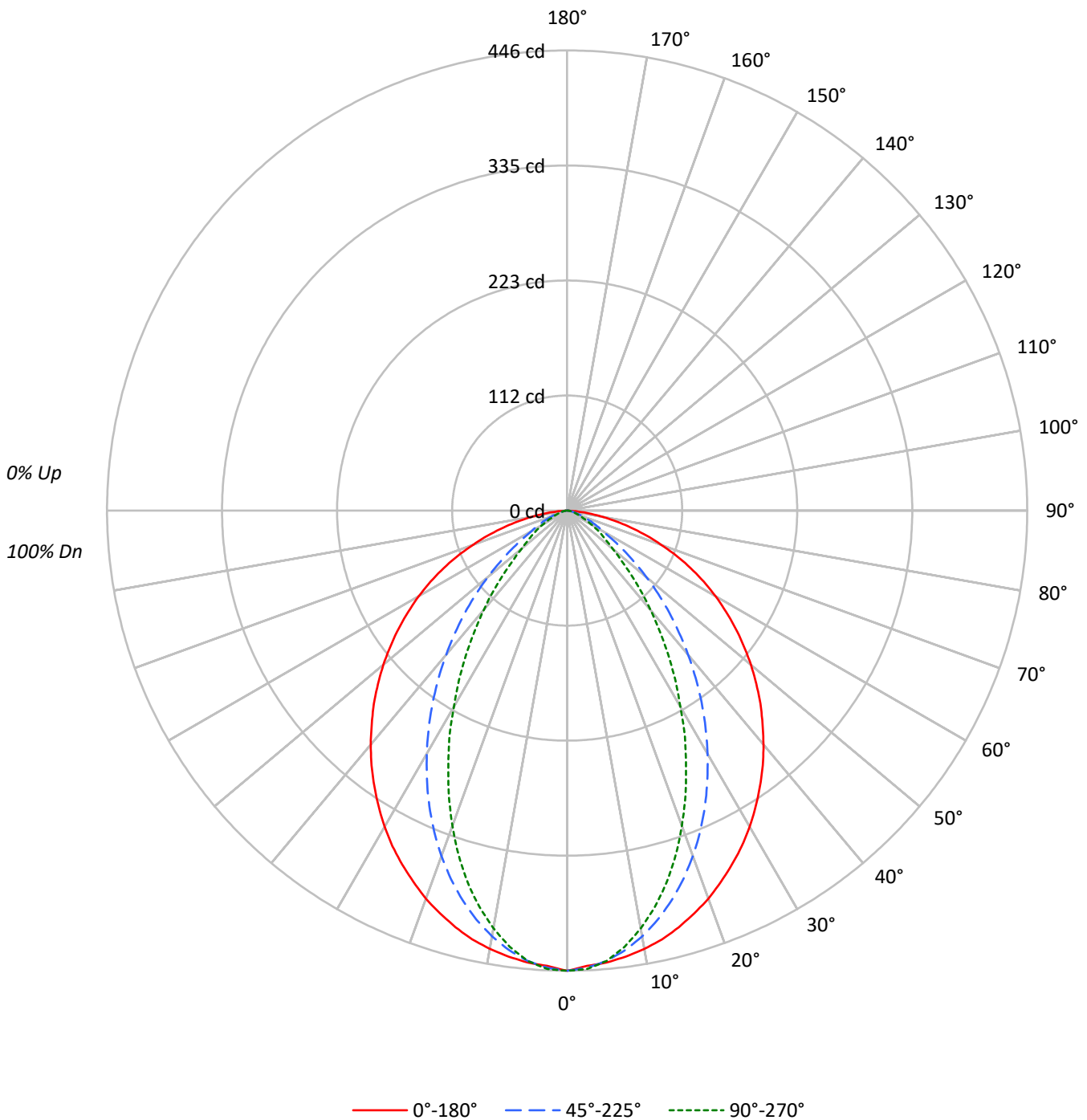
Lumens per Lamp: N/A
Luminaire Lumens: 721.1 lumens
Efficiency: N/A
Efficacy: 57.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3943	3943	3943
5°	3902	3888	3888
10°	3873	3762	3691
15°	3827	3581	3413
20°	3766	3352	3059
25°	3690	3083	2657
30°	3612	2777	2238
35°	3519	2451	1842
40°	3417	2104	1452
45°	3312	1749	1085
50°	3198	1377	794
55°	3072	1017	634
60°	2937	706	485
65°	2762	548	356
70°	2502	385	279
75°	2183	270	212
80°	1757	214	188
85°	974	172	172

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3312 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.4	5.7
10°-20°	110.5	15.3
20°-30°	147.4	20.4
30°-40°	148.4	20.6
40°-50°	121.7	16.9
50°-60°	83.2	11.5
60°-70°	46.5	6.4
70°-80°	18.4	2.6
80°-90°	3.5	0.5
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°	299.3	41.5
0°-40°	447.7	62.1
0°-60°	652.7	90.5
0°-90°	721.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	721.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	446	446	446	446	446	
5°	440	445	438	436	438	42
15°	418	414	391	378	373	118
25°	378	360	316	284	272	174
35°	326	292	227	184	171	204
45°	265	216	140	98	87	204
55°	199	140	66	44	41	178
65°	132	66	26	19	17	130
75°	64	17	8	7	6	69
85°	10	2	2	2	2	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	446.0	446.0	446.0	446.0	446.0
2.5°	441.8	447.2	443.5	443.9	444.7
5°	439.7	444.7	438.1	436.0	438.1
7.5°	436.0	439.7	429.8	425.6	426.4
10°	431.4	432.7	419.0	411.9	411.1
12.5°	425.6	424.0	406.1	395.7	393.2
15°	418.1	413.6	391.2	377.5	372.9
17.5°	409.4	401.5	374.5	356.7	350.0
20°	400.3	388.7	356.3	333.4	325.1
22.5°	389.5	375.0	336.8	308.9	299.4
25°	378.3	359.6	316.0	284.0	272.4
27.5°	366.7	343.8	294.4	258.7	247.1
30°	353.8	326.8	272.0	233.4	219.2
32.5°	340.1	309.4	249.6	208.4	195.2
35°	326.0	291.5	227.1	183.9	170.7
37.5°	311.4	273.2	204.7	160.7	147.4
40°	296.1	254.5	182.3	138.7	125.8
42.5°	280.3	235.4	160.7	117.9	105.9
45°	264.9	216.3	139.9	98.4	86.8
47.5°	248.7	197.2	119.6	80.1	70.2
50°	232.5	178.1	100.1	64.4	57.7
52.5°	215.9	159.0	82.2	52.7	48.2
55°	199.3	139.9	66.0	44.0	41.1
57.5°	182.7	120.8	51.1	37.4	34.0
60°	166.1	102.1	39.9	30.3	27.4
62.5°	149.1	83.5	32.8	24.1	21.6
65°	132.0	66.4	26.2	18.7	17.0
67.5°	115.0	50.7	19.9	14.5	13.3
70°	96.8	36.1	14.9	11.2	10.8
72.5°	81.0	24.5	10.8	8.7	8.3
75°	63.9	17.4	7.9	6.6	6.2
77.5°	49.4	11.2	5.8	5.4	5.0
80°	34.5	6.2	4.2	3.7	3.7
82.5°	21.2	3.3	2.9	2.5	2.5
85°	9.6	1.7	1.7	1.7	1.7
87.5°	1.7	0.8	0.8	0.8	0.8
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	15.49	16.90	15.85	17.21	17.52	6.58	7.99	6.95	8.30	8.62
	3H	17.08	18.33	17.46	18.66	19.02	7.17	8.43	7.55	8.75	9.12
	4H	17.67	18.84	18.07	19.19	19.57	7.33	8.50	7.73	8.85	9.23
	6H	18.10	19.18	18.52	19.55	19.94	7.44	8.51	7.85	8.88	9.27
	8H	18.22	19.24	18.64	19.63	20.03	7.46	8.48	7.88	8.87	9.27
	12H	18.26	19.23	18.69	19.62	20.05	7.46	8.44	7.90	8.82	9.25
4H	2H	15.34	16.51	15.75	16.86	17.24	7.17	8.34	7.57	8.69	9.07
	3H	16.99	17.95	17.40	18.35	18.76	7.88	8.84	8.29	9.24	9.64
	4H	17.60	18.45	18.03	18.87	19.31	8.08	8.94	8.51	9.36	9.80
	6H	18.09	18.83	18.55	19.28	19.74	8.24	8.99	8.71	9.43	9.90
	8H	18.23	18.92	18.70	19.37	19.84	8.28	8.97	8.74	9.41	9.88
	12H	18.31	18.92	18.79	19.40	19.87	8.30	8.92	8.79	9.40	9.87
8H	4H	17.49	18.18	17.96	18.63	19.10	8.35	9.04	8.82	9.49	9.96
	6H	17.97	18.54	18.47	19.03	19.51	8.55	9.12	9.05	9.61	10.09
	8H	18.12	18.62	18.64	19.14	19.63	8.61	9.12	9.13	9.63	10.12
	12H	18.21	18.66	18.72	19.15	19.72	8.67	9.12	9.19	9.61	10.18
12H	4H	17.45	18.06	17.94	18.55	19.02	8.38	8.99	8.86	9.47	9.95
	6H	17.92	18.43	18.44	18.94	19.43	8.58	9.09	9.10	9.60	10.09
	8H	18.08	18.53	18.59	19.02	19.59	8.67	9.12	9.19	9.62	10.19