

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: P1056026

Luminaire Tested: S124R3DR-S350D935-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056026
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-S350D935-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

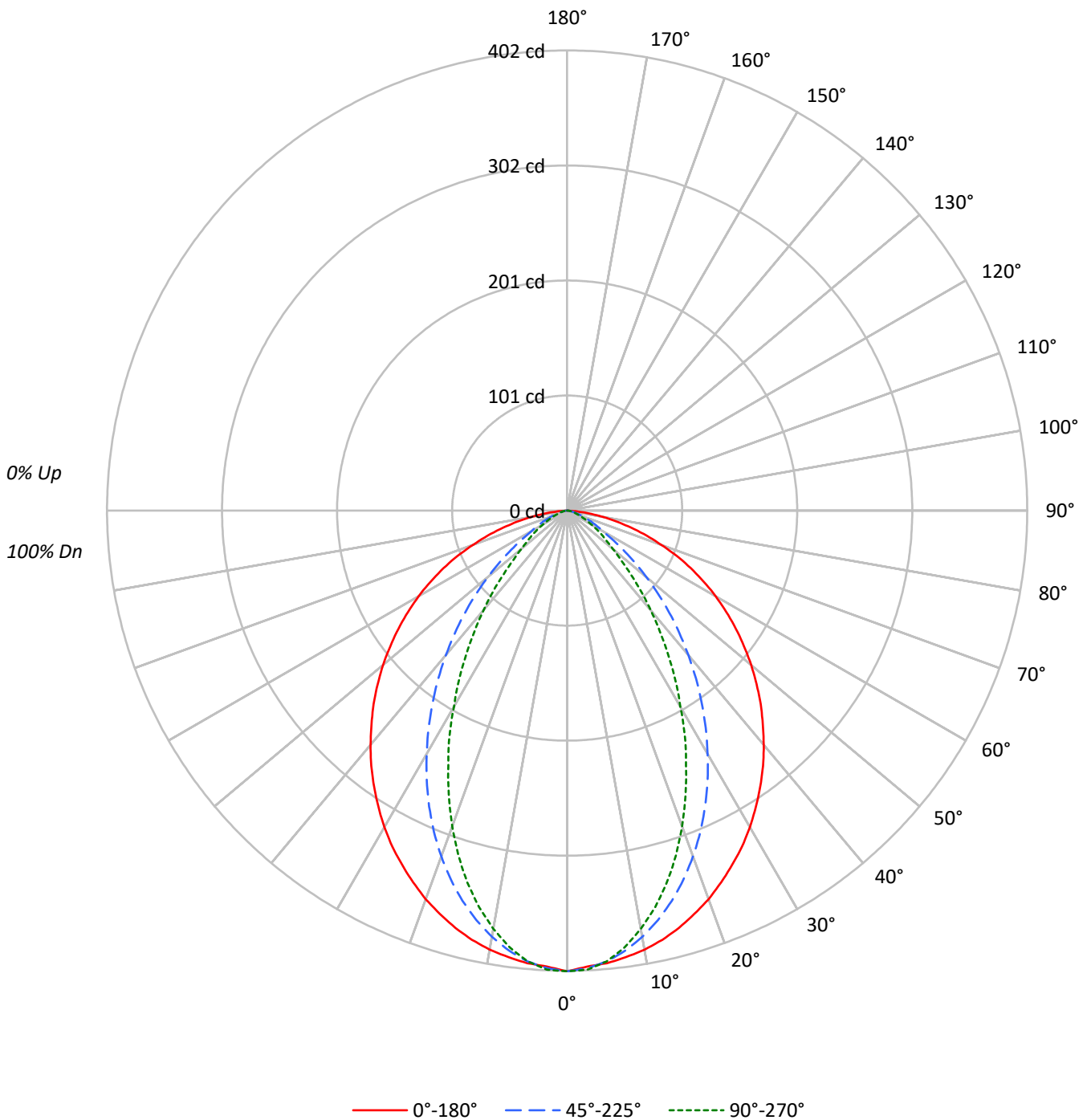
Lumens per Lamp: N/A
Luminaire Lumens: 650.8 lumens
Efficiency: N/A
Efficacy: 51.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3559	3559	3559
5°	3523	3509	3509
10°	3496	3394	3331
15°	3454	3231	3080
20°	3399	3025	2761
25°	3330	2782	2398
30°	3260	2506	2020
35°	3175	2213	1662
40°	3084	1899	1311
45°	2990	1579	979
50°	2887	1242	717
55°	2773	919	572
60°	2651	637	437
65°	2494	494	322
70°	2257	349	251
75°	1971	243	191
80°	1583	188	173
85°	872	152	152

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2990 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.3	5.7
10°-20°	99.8	15.3
20°-30°	133.0	20.4
30°-40°	134.0	20.6
40°-50°	109.9	16.9
50°-60°	75.1	11.5
60°-70°	42.0	6.4
70°-80°	16.6	2.6
80°-90°	3.1	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°	270.1	41.5
0°-40°	404.1	62.1
0°-60°	589.0	90.5
0°-90°	650.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	650.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	402	402	402	402	402	
5°	397	401	395	394	395	38
15°	377	373	353	341	336	106
25°	341	324	285	256	246	157
35°	294	263	205	166	154	184
45°	239	195	126	89	78	184
55°	180	126	60	40	37	161
65°	119	60	24	17	15	118
75°	58	16	7	6	6	62
85°	9	2	2	2	2	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	402.5	402.5	402.5	402.5	402.5
2.5°	398.7	403.6	400.2	400.6	401.4
5°	396.9	401.4	395.4	393.5	395.4
7.5°	393.5	396.9	387.9	384.1	384.9
10°	389.4	390.5	378.1	371.8	371.0
12.5°	384.1	382.6	366.5	357.1	354.9
15°	377.4	373.3	353.0	340.7	336.5
17.5°	369.5	362.4	338.0	321.9	315.9
20°	361.3	350.8	321.5	300.9	293.4
22.5°	351.5	338.4	303.9	278.8	270.2
25°	341.4	324.5	285.2	256.3	245.8
27.5°	330.9	310.3	265.7	233.5	223.0
30°	319.3	294.9	245.5	210.6	197.9
32.5°	306.9	279.2	225.2	188.1	176.1
35°	294.2	263.1	205.0	166.0	154.0
37.5°	281.1	246.6	184.8	145.0	133.0
40°	267.2	229.7	164.5	125.2	113.6
42.5°	253.0	212.5	145.0	106.4	95.6
45°	239.1	195.2	126.3	88.8	78.3
47.5°	224.5	178.0	107.9	72.3	63.3
50°	209.9	160.8	90.3	58.1	52.1
52.5°	194.9	143.5	74.2	47.6	43.5
55°	179.9	126.3	59.6	39.7	37.1
57.5°	164.9	109.1	46.1	33.7	30.7
60°	149.9	92.2	36.0	27.4	24.7
62.5°	134.5	75.3	29.6	21.7	19.5
65°	119.2	60.0	23.6	16.9	15.4
67.5°	103.8	45.7	18.0	13.1	12.0
70°	87.3	32.6	13.5	10.1	9.7
72.5°	73.1	22.1	9.7	7.9	7.5
75°	57.7	15.7	7.1	6.0	5.6
77.5°	44.6	10.1	5.2	4.9	4.5
80°	31.1	5.6	3.7	3.4	3.4
82.5°	19.1	3.0	2.6	2.2	2.2
85°	8.6	1.5	1.5	1.5	1.5
87.5°	1.5	0.7	0.7	0.7	0.7
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	15.14	16.54	15.50	16.86	17.17	6.22	7.63	6.58	7.94	8.25
	3H	16.72	17.97	17.10	18.30	18.67	6.81	8.06	7.19	8.39	8.75
	4H	17.32	18.48	17.72	18.83	19.22	6.97	8.14	7.37	8.49	8.87
	6H	17.75	18.82	18.16	19.19	19.58	7.08	8.15	7.49	8.52	8.91
	8H	17.86	18.88	18.29	19.27	19.67	7.10	8.12	7.52	8.51	8.91
	12H	17.90	18.88	18.33	19.26	19.69	7.10	8.08	7.53	8.46	8.89
4H	2H	14.99	16.16	15.39	16.51	16.89	6.80	7.97	7.20	8.32	8.70
	3H	16.64	17.60	17.05	18.00	18.40	7.51	8.47	7.93	8.88	9.28
	4H	17.24	18.10	17.68	18.52	18.96	7.72	8.58	8.15	9.00	9.44
	6H	17.73	18.48	18.19	18.92	19.38	7.89	8.63	8.35	9.08	9.54
	8H	17.88	18.57	18.34	19.01	19.48	7.92	8.61	8.39	9.06	9.53
	12H	17.95	18.56	18.43	19.04	19.52	7.94	8.56	8.43	9.04	9.51
8H	4H	17.13	17.83	17.60	18.27	18.74	7.99	8.68	8.46	9.13	9.60
	6H	17.62	18.18	18.12	18.68	19.16	8.20	8.76	8.70	9.26	9.74
	8H	17.76	18.27	18.28	18.78	19.27	8.25	8.76	8.77	9.27	9.76
	12H	17.85	18.30	18.36	18.79	19.36	8.31	8.76	8.82	9.25	9.82
12H	4H	17.10	17.71	17.58	18.19	18.66	8.02	8.63	8.50	9.11	9.58
	6H	17.56	18.07	18.08	18.58	19.07	8.22	8.73	8.74	9.25	9.74
	8H	17.73	18.17	18.24	18.67	19.24	8.31	8.76	8.83	9.26	9.82