

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: P1056017

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

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056017
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-S350D850-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, 80 CRI LEDS
Ballast/Driver: -

Summary

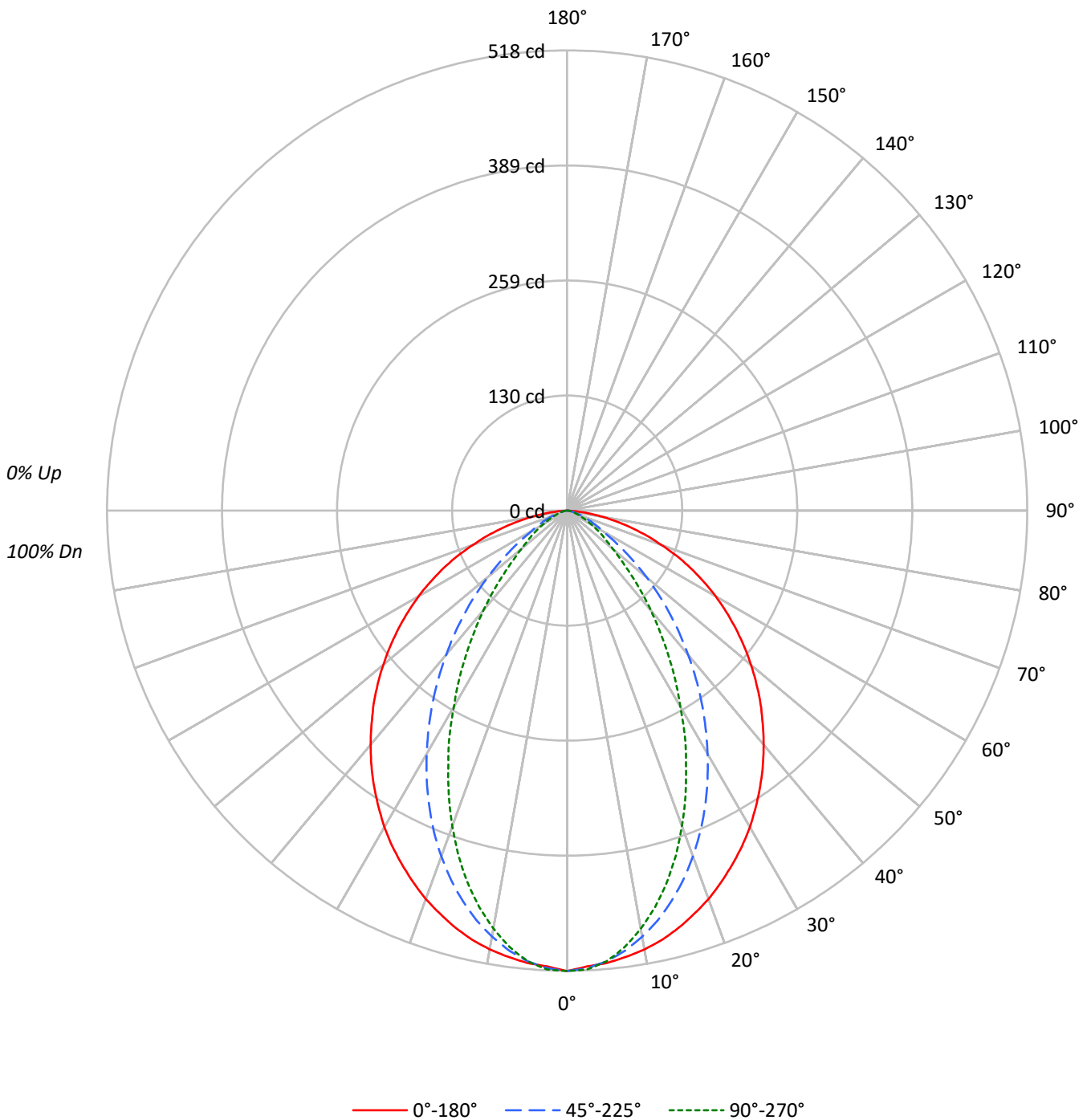
Lumens per Lamp: N/A
Luminaire Lumens: 838.3 lumens
Efficiency: N/A
Efficacy: 66.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1056017

CATALOG NUMBER: S124R3DR-S350D850-X4F0-XX-UDD-F-S

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°	4583	4583	4583
5°	4537	4520	4520
10°	4502	4372	4290
15°	4449	4162	3968
20°	4378	3897	3557
25°	4289	3583	3090
30°	4199	3228	2602
35°	4090	2849	2141
40°	3973	2446	1689
45°	3851	2034	1262
50°	3718	1600	923
55°	3572	1182	737
60°	3415	819	564
65°	3211	636	414
70°	2908	450	326
75°	2538	314	246
80°	2042	244	219
85°	1126	193	193

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3851 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.1	5.7
10°-20°	128.5	15.3
20°-30°	171.4	20.4
30°-40°	172.5	20.6
40°-50°	141.5	16.9
50°-60°	96.7	11.5
60°-70°	54.0	6.4
70°-80°	21.4	2.6
80°-90°	4.1	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°	347.9	41.5
0°-40°	520.5	62.1
0°-60°	758.7	90.5
0°-90°	838.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	838.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	518	518	518	518	518	
5°	511	517	509	507	509	48
15°	486	481	455	439	434	137
25°	440	418	367	330	317	203
35°	379	339	264	214	198	237
45°	308	252	163	114	101	237
55°	232	163	77	51	48	207
65°	154	77	30	22	20	152
75°	74	20	9	8	7	80
85°	11	2	2	2	2	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	518.4	518.4	518.4	518.4	518.4
2.5°	513.6	519.9	515.5	516.0	517.0
5°	511.2	517.0	509.3	506.8	509.3
7.5°	506.8	511.2	499.6	494.8	495.7
10°	501.5	503.0	487.0	478.8	477.9
12.5°	494.8	492.8	472.1	460.0	457.1
15°	486.1	480.8	454.7	438.8	433.5
17.5°	475.9	466.8	435.4	414.6	406.9
20°	465.3	451.8	414.2	387.6	378.0
22.5°	452.8	435.9	391.5	359.1	348.0
25°	439.7	418.0	367.3	330.2	316.7
27.5°	426.2	399.7	342.2	300.7	287.2
30°	411.3	379.9	316.2	271.3	254.9
32.5°	395.3	359.6	290.1	242.3	226.9
35°	378.9	338.9	264.0	213.8	198.4
37.5°	362.0	317.6	238.0	186.8	171.4
40°	344.2	295.9	211.9	161.2	146.3
42.5°	325.8	273.7	186.8	137.1	123.1
45°	308.0	251.5	162.7	114.4	100.9
47.5°	289.1	229.3	139.0	93.2	81.6
50°	270.3	207.1	116.3	74.8	67.1
52.5°	251.0	184.9	95.6	61.3	56.0
55°	231.7	162.7	76.7	51.2	47.8
57.5°	212.4	140.5	59.4	43.4	39.6
60°	193.1	118.7	46.3	35.2	31.9
62.5°	173.3	97.0	38.1	28.0	25.1
65°	153.5	77.2	30.4	21.7	19.8
67.5°	133.7	58.9	23.2	16.9	15.4
70°	112.5	42.0	17.4	13.0	12.6
72.5°	94.1	28.5	12.6	10.1	9.7
75°	74.3	20.3	9.2	7.7	7.2
77.5°	57.4	13.0	6.8	6.3	5.8
80°	40.1	7.2	4.8	4.3	4.3
82.5°	24.6	3.9	3.4	2.9	2.9
85°	11.1	1.9	1.9	1.9	1.9
87.5°	1.9	1.0	1.0	1.0	1.0
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	16.01	17.42	16.38	17.73	18.05	7.10	8.51	7.46	8.82	9.13
	3H	17.60	18.85	17.98	19.18	19.54	7.69	8.94	8.07	9.27	9.63
	4H	18.20	19.36	18.60	19.71	20.09	7.85	9.02	8.25	9.37	9.75
	6H	18.63	19.70	19.04	20.07	20.46	7.95	9.03	8.37	9.40	9.79
	8H	18.74	19.76	19.17	20.15	20.55	7.97	8.99	8.40	9.38	9.79
	12H	18.78	19.76	19.21	20.14	20.57	7.98	8.96	8.41	9.34	9.77
4H	2H	15.87	17.04	16.27	17.39	17.77	7.68	8.85	8.08	9.20	9.58
	3H	17.52	18.48	17.93	18.88	19.28	8.39	9.35	8.81	9.76	10.16
	4H	18.12	18.98	18.56	19.40	19.84	8.60	9.46	9.03	9.87	10.32
	6H	18.61	19.36	19.07	19.80	20.26	8.76	9.51	9.22	9.95	10.41
	8H	18.76	19.45	19.22	19.89	20.36	8.80	9.49	9.26	9.93	10.40
	12H	18.83	19.44	19.31	19.92	20.40	8.82	9.43	9.31	9.92	10.39
8H	4H	18.01	18.71	18.48	19.15	19.62	8.87	9.56	9.34	10.01	10.48
	6H	18.50	19.06	19.00	19.56	20.04	9.07	9.64	9.57	10.13	10.61
	8H	18.64	19.15	19.16	19.66	20.15	9.13	9.64	9.65	10.15	10.64
	12H	18.73	19.18	19.24	19.67	20.24	9.19	9.64	9.70	10.13	10.70
12H	4H	17.98	18.59	18.46	19.07	19.54	8.90	9.51	9.38	9.99	10.47
	6H	18.44	18.95	18.96	19.46	19.95	9.10	9.61	9.62	10.12	10.61
	8H	18.61	19.05	19.12	19.55	20.12	9.19	9.64	9.71	10.14	10.71