

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: P1056013

Luminaire Tested: S124R3DR-S350D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056013
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-S350D840-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

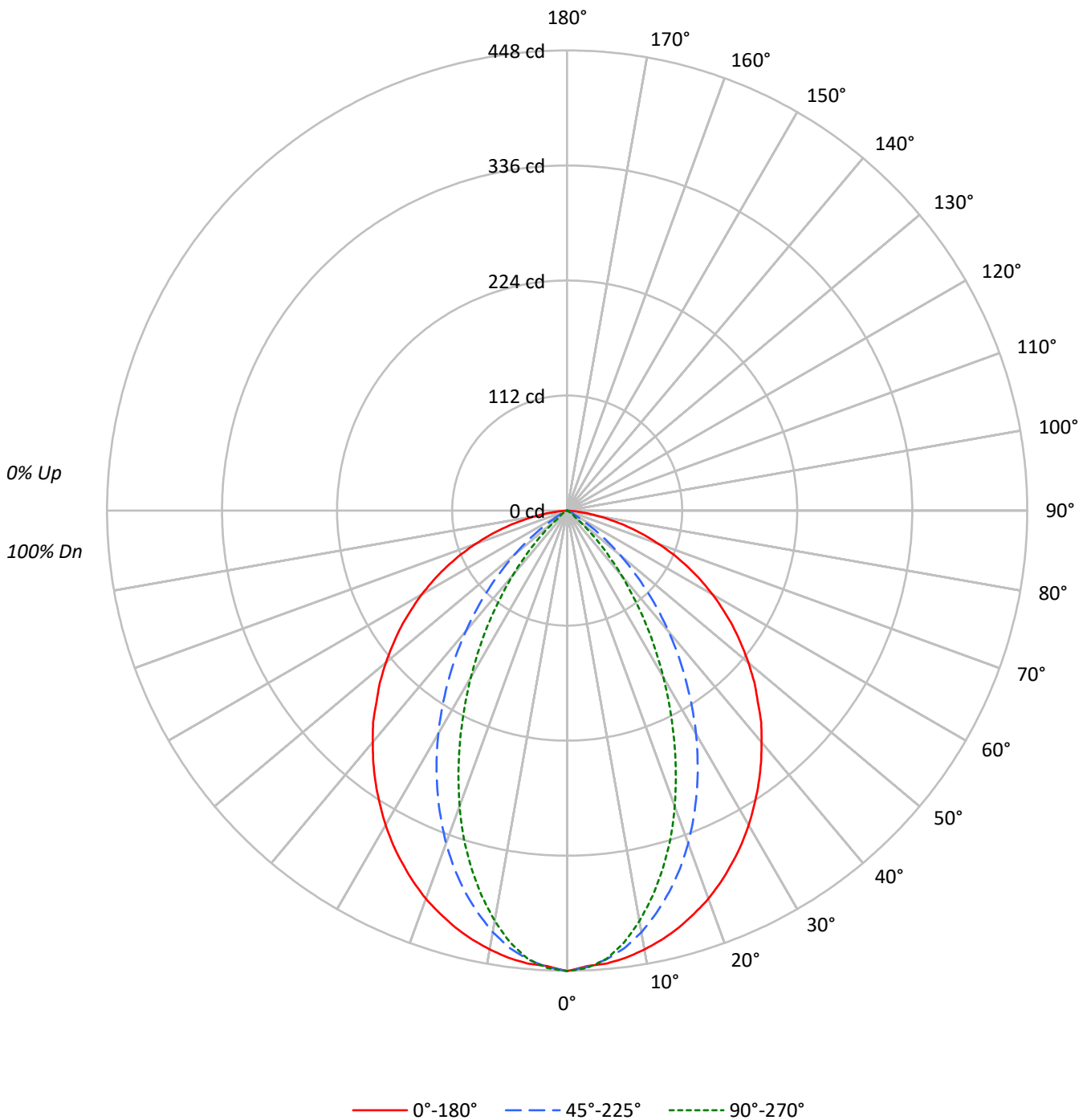
Lumens per Lamp: N/A
Luminaire Lumens: 626.6 lumens
Efficiency: N/A
Efficacy: 49.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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

TEST NUMBER: P1056013

CATALOG NUMBER: S124R3DR-S350D840-X4F0-XX-UDD-F-B

Luminous Intensity Polar Plot





TEST NUMBER: P1056013

CATALOG NUMBER: S124R3DR-S350D840-X4F0-XX-UDD-F-B

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3964	3964	3964
5°	3928	3894	3889
10°	3895	3741	3642
15°	3846	3517	3299
20°	3784	3242	2883
25°	3700	2920	2406
30°	3608	2562	1911
35°	3506	2173	1424
40°	3399	1770	949
45°	3281	1352	523
50°	3168	926	144
55°	3043	501	96
60°	2891	156	55
65°	2703	100	27
70°	2443	47	10
75°	2101	14	0
80°	1589	0	0
85°	670	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3281 cd/sqm



TEST NUMBER: P1056013

CATALOG NUMBER: S124R3DR-S350D840-X4F0-XX-UDD-F-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.4	6.6
10°-20°	108.6	17.3
20°-30°	140.3	22.4
30°-40°	134.1	21.4
40°-50°	100.3	16.0
50°-60°	59.7	9.5
60°-70°	30.3	4.8
70°-80°	10.5	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°	290.3	46.3
0°-40°	424.4	67.7
0°-60°	584.4	93.3
0°-90°	626.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	626.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	448	448	448	448	448	
5°	443	446	439	436	438	42
15°	420	411	384	366	360	118
25°	379	353	299	260	247	175
35°	325	280	201	150	132	203
45°	262	201	108	58	42	203
55°	197	123	32	8	6	176
65°	129	50	5	2	1	128
75°	62	7	0	0	0	65
85°	7	0	0	0	0	11
90°	0	0	0	0	0	



TEST NUMBER: P1056013

CATALOG NUMBER: S124R3DR-S350D840-X4F0-XX-UDD-F-B

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	448.3	448.3	448.3	448.3	448.3
2.5°	443.9	449.2	444.8	445.3	445.7
5°	442.6	446.1	438.7	436.5	438.2
7.5°	439.1	440.4	429.4	423.7	424.2
10°	433.8	432.5	416.7	407.0	405.7
12.5°	427.7	423.3	401.3	387.2	384.2
15°	420.2	411.4	384.2	366.1	360.4
17.5°	411.4	398.7	365.3	341.5	334.5
20°	402.2	384.6	344.6	315.2	306.4
22.5°	391.2	368.8	322.2	287.5	276.5
25°	379.3	353.0	299.3	259.8	246.6
27.5°	367.0	335.8	275.2	231.6	216.3
30°	353.4	317.8	251.0	203.1	187.2
32.5°	339.3	299.3	225.9	176.7	159.1
35°	324.8	280.0	201.3	149.9	131.9
37.5°	309.9	260.7	177.6	124.4	105.9
40°	294.5	240.9	153.4	100.2	82.2
42.5°	279.6	221.1	130.5	77.4	60.7
45°	262.4	201.3	108.1	57.6	41.8
47.5°	247.0	182.0	86.6	39.1	24.6
50°	230.3	161.3	67.3	22.9	10.5
52.5°	213.6	142.0	49.2	10.1	7.9
55°	197.4	122.6	32.5	7.5	6.2
57.5°	180.2	103.3	17.6	5.7	4.4
60°	163.5	84.4	8.8	4.4	3.1
62.5°	146.4	66.4	7.0	2.6	1.8
65°	129.2	49.7	4.8	1.8	1.3
67.5°	112.1	33.8	3.1	0.9	0.4
70°	94.5	20.7	1.8	0.4	0.4
72.5°	77.8	10.5	0.9	0.4	0.4
75°	61.5	6.6	0.4	0.4	0.0
77.5°	45.7	3.5	0.4	0.4	0.0
80°	31.2	1.3	0.0	0.0	0.0
82.5°	18.0	0.4	0.0	0.0	0.0
85°	6.6	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



TEST NUMBER: P1056013
 CATALOG NUMBER: S124R3DR-S350D840-X4F0-XX-UDD-F-B

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	15.24	16.57	15.61	16.88	17.20	0.00	0.00	0.00	0.00	0.00
	3H	16.78	17.96	17.16	18.29	18.65	0.00	0.00	0.00	0.00	0.00
	4H	17.38	18.47	17.78	18.82	19.21	0.00	0.00	0.00	0.00	0.00
	6H	17.79	18.80	18.21	19.17	19.56	0.00	0.00	0.00	0.00	0.00
	8H	17.89	18.84	18.32	19.23	19.64	0.00	0.00	0.00	0.00	0.00
	12H	17.91	18.82	18.34	19.20	19.63	0.00	0.00	0.00	0.00	0.00
4H	2H	15.02	16.11	15.42	16.46	16.85	0.00	0.00	0.00	0.00	0.00
	3H	16.58	17.48	16.99	17.88	18.28	0.00	0.00	0.00	0.00	0.00
	4H	17.16	17.96	17.60	18.38	18.82	0.00	0.00	0.00	0.00	0.00
	6H	17.62	18.31	18.09	18.76	19.22	0.00	0.00	0.00	0.00	0.00
	8H	17.74	18.38	18.21	18.83	19.30	0.00	0.00	0.00	0.00	0.00
	12H	17.78	18.35	18.27	18.83	19.31	0.00	0.00	0.00	0.00	0.00
8H	4H	17.03	17.67	17.50	18.12	18.59	0.00	0.00	0.00	0.00	0.00
	6H	17.47	17.99	17.97	18.49	18.97	0.00	0.00	0.00	0.00	0.00
	8H	17.58	18.05	18.11	18.57	19.06	0.00	0.00	0.00	0.00	0.00
	12H	17.63	18.05	18.15	18.54	19.11	0.00	0.00	0.00	0.00	0.00
12H	4H	16.98	17.55	17.47	18.03	18.51	0.00	0.00	0.00	0.00	0.00
	6H	17.41	17.87	17.93	18.39	18.88	0.00	0.00	0.00	0.00	0.00
	8H	17.54	17.95	18.06	18.45	19.02	0.00	0.00	0.00	0.00	0.00