

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1056148

Luminaire Tested: S124R3DR-H350D840-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056148
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-H350D840-X4F0-XX-UDD-FLL-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

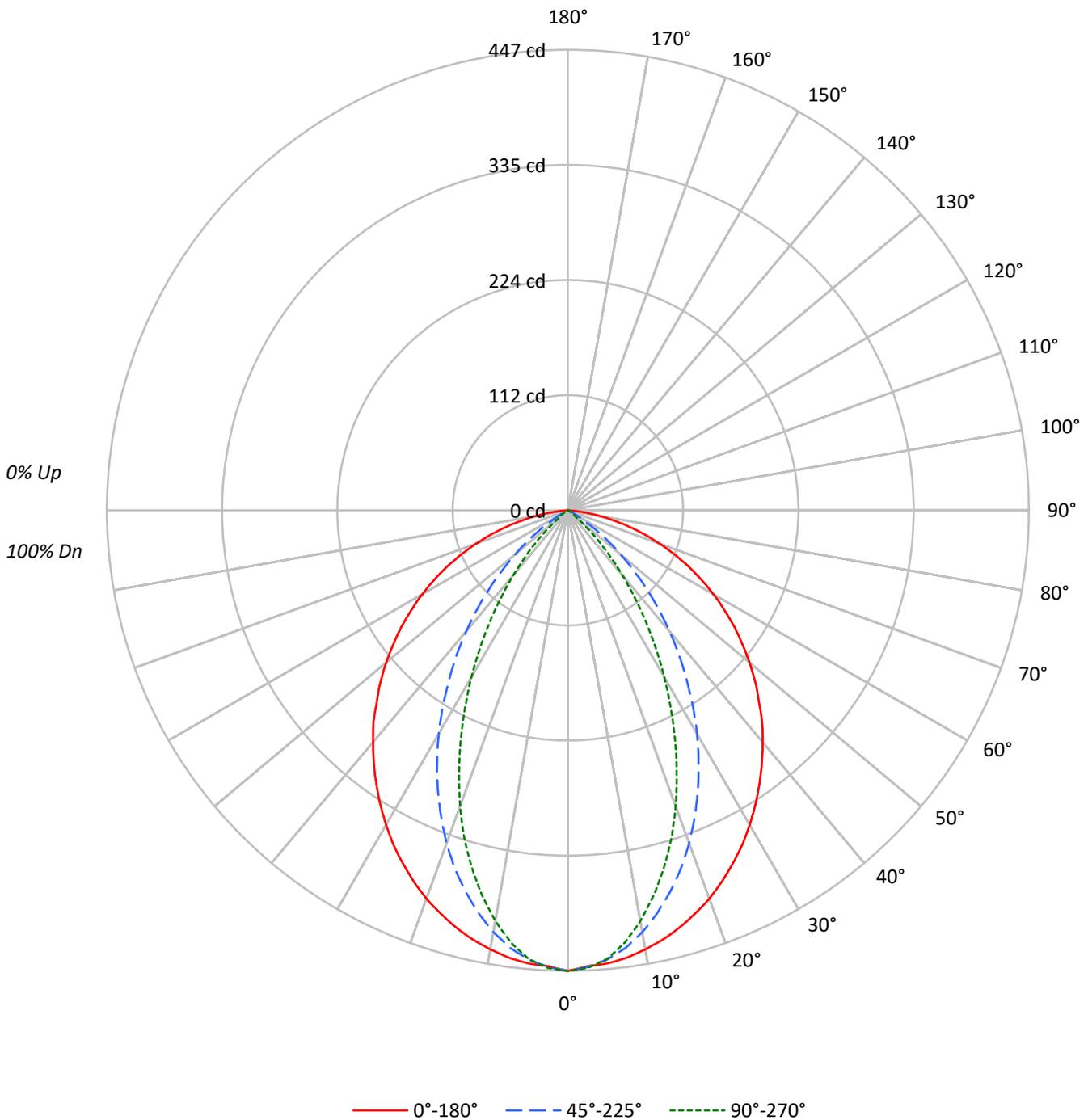
Lumens per Lamp: N/A
Luminaire Lumens: 625.1 lumens
Efficiency: N/A
Efficacy: 53.4 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (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

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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	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°	3954	3954	3954
5°	3918	3884	3880
10°	3886	3732	3633
15°	3837	3508	3291
20°	3775	3235	2875
25°	3691	2913	2400
30°	3599	2556	1907
35°	3497	2167	1419
40°	3391	1766	946
45°	3273	1349	521
50°	3161	923	144
55°	3035	499	94
60°	2884	156	55
65°	2697	100	27
70°	2438	47	10
75°	2097	14	0
80°	1583	0	0
85°	670	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3273 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.3	6.6
10°-20°	108.3	17.3
20°-30°	140.0	22.4
30°-40°	133.8	21.4
40°-50°	100.1	16.0
50°-60°	59.5	9.5
60°-70°	30.2	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°	289.6	46.3
0°-40°	423.3	67.7
0°-60°	582.9	93.3
0°-90°	625.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	625.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	447	447	447	447	447	
5°	442	445	438	435	437	42
15°	419	410	383	365	360	118
25°	378	352	299	259	246	174
35°	324	279	201	150	132	203
45°	262	201	108	57	42	202
55°	197	122	32	8	6	176
65°	129	50	5	2	1	127
75°	61	7	0	0	0	65
85°	7	0	0	0	0	11
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	447.2	447.2	447.2	447.2	447.2
2.5°	442.9	448.1	443.7	444.2	444.6
5°	441.5	445.1	437.6	435.4	437.2
7.5°	438.0	439.4	428.4	422.7	423.1
10°	432.8	431.5	415.7	406.0	404.7
12.5°	426.6	422.3	400.3	386.3	383.2
15°	419.2	410.4	383.2	365.3	359.5
17.5°	410.4	397.7	364.4	340.7	333.7
20°	401.2	383.7	343.8	314.4	305.6
22.5°	390.2	367.9	321.4	286.8	275.8
25°	378.4	352.1	298.6	259.1	246.0
27.5°	366.1	335.0	274.5	231.1	215.7
30°	352.5	317.0	250.4	202.6	186.8
32.5°	338.5	298.6	225.4	176.3	158.7
35°	324.0	279.3	200.8	149.5	131.5
37.5°	309.1	260.0	177.1	124.1	105.7
40°	293.8	240.3	153.0	100.0	82.0
42.5°	278.9	220.6	130.2	77.2	60.5
45°	261.8	200.8	107.9	57.4	41.7
47.5°	246.4	181.5	86.4	39.0	24.6
50°	229.8	160.9	67.1	22.8	10.5
52.5°	213.1	141.6	49.1	10.1	7.9
55°	196.9	122.3	32.4	7.5	6.1
57.5°	179.8	103.0	17.5	5.7	4.4
60°	163.1	84.2	8.8	4.4	3.1
62.5°	146.0	66.2	7.0	2.6	1.8
65°	128.9	49.5	4.8	1.8	1.3
67.5°	111.8	33.8	3.1	0.9	0.4
70°	94.3	20.6	1.8	0.4	0.4
72.5°	77.6	10.5	0.9	0.4	0.4
75°	61.4	6.6	0.4	0.4	0.0
77.5°	45.6	3.5	0.4	0.4	0.0
80°	31.1	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



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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	15.23	16.56	15.60	16.87	17.19	0.00	0.00	0.00	0.00	0.00
	3H	16.77	17.95	17.15	18.28	18.65	0.00	0.00	0.00	0.00	0.00
	4H	17.37	18.46	17.77	18.81	19.20	0.00	0.00	0.00	0.00	0.00
	6H	17.78	18.79	18.20	19.16	19.55	0.00	0.00	0.00	0.00	0.00
	8H	17.88	18.84	18.31	19.23	19.63	0.00	0.00	0.00	0.00	0.00
	12H	17.90	18.81	18.34	19.20	19.63	0.00	0.00	0.00	0.00	0.00
4H	2H	15.01	16.10	15.41	16.45	16.84	0.00	0.00	0.00	0.00	0.00
	3H	16.57	17.47	16.98	17.87	18.27	0.00	0.00	0.00	0.00	0.00
	4H	17.16	17.95	17.59	18.37	18.82	0.00	0.00	0.00	0.00	0.00
	6H	17.62	18.30	18.08	18.75	19.22	0.00	0.00	0.00	0.00	0.00
	8H	17.74	18.38	18.20	18.82	19.29	0.00	0.00	0.00	0.00	0.00
	12H	17.78	18.34	18.26	18.82	19.30	0.00	0.00	0.00	0.00	0.00
8H	4H	17.02	17.66	17.49	18.11	18.58	0.00	0.00	0.00	0.00	0.00
	6H	17.46	17.98	17.96	18.48	18.96	0.00	0.00	0.00	0.00	0.00
	8H	17.58	18.04	18.10	18.56	19.05	0.00	0.00	0.00	0.00	0.00
	12H	17.63	18.04	18.14	18.53	19.11	0.00	0.00	0.00	0.00	0.00
12H	4H	16.97	17.54	17.46	18.02	18.50	0.00	0.00	0.00	0.00	0.00
	6H	17.40	17.87	17.92	18.38	18.87	0.00	0.00	0.00	0.00	0.00
	8H	17.53	17.95	18.05	18.44	19.01	0.00	0.00	0.00	0.00	0.00