

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: P1056164

Luminaire Tested: S124R3DR-H350D940-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056164
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-H350D940-X4F0-XX-UDD-FLL-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

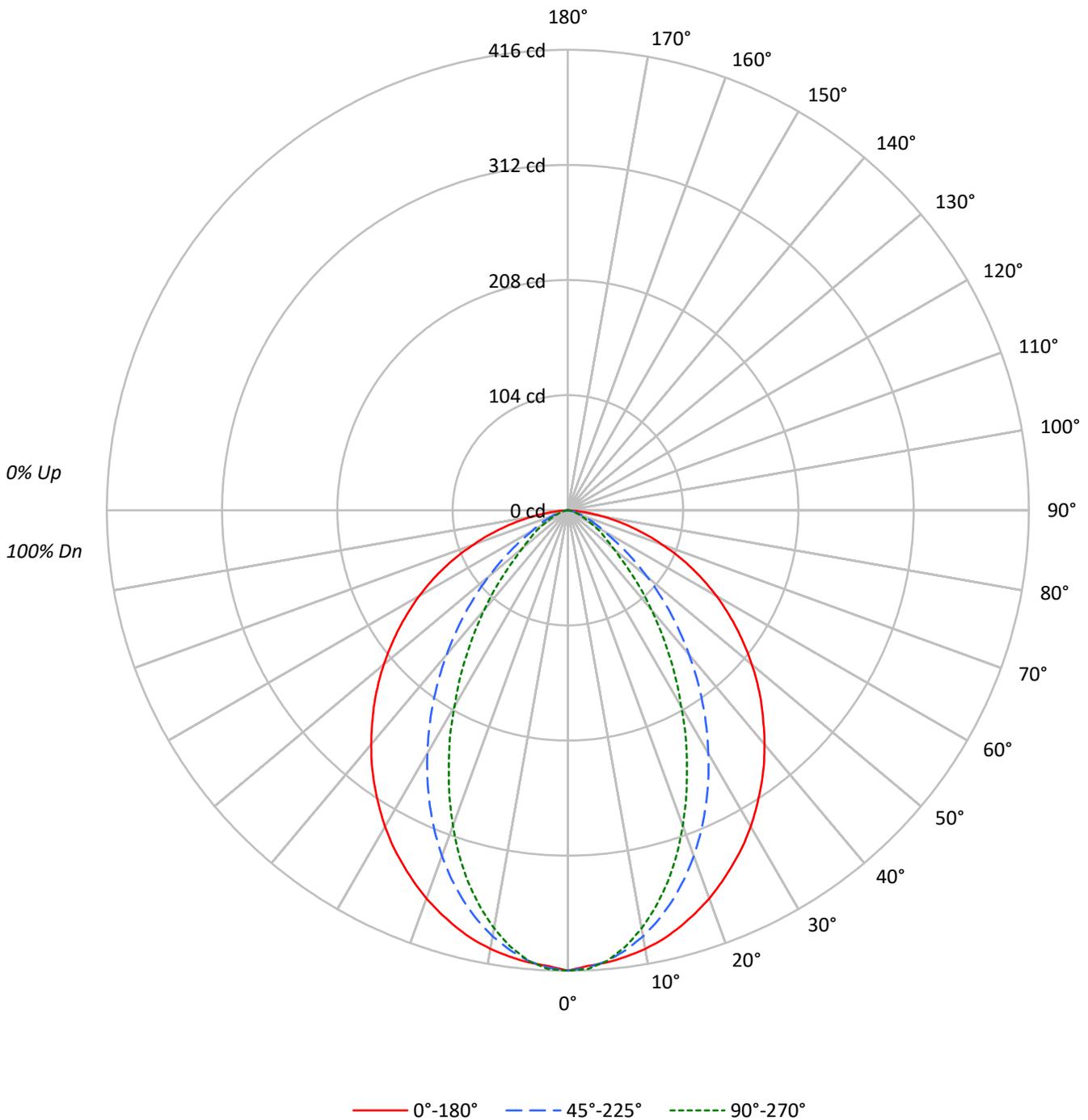
Lumens per Lamp: N/A
Luminaire Lumens: 672.4 lumens
Efficiency: N/A
Efficacy: 57.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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°	3676	3676	3676
5°	3639	3625	3625
10°	3612	3508	3441
15°	3569	3338	3183
20°	3511	3126	2853
25°	3441	2874	2478
30°	3368	2589	2087
35°	3280	2286	1717
40°	3187	1962	1354
45°	3088	1632	1012
50°	2982	1283	740
55°	2864	950	590
60°	2739	658	453
65°	2575	510	333
70°	2332	359	261
75°	2036	253	198
80°	1634	199	178
85°	903	152	152

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3088 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.6	5.7
10°-20°	103.1	15.3
20°-30°	137.5	20.4
30°-40°	138.4	20.6
40°-50°	113.5	16.9
50°-60°	77.6	11.5
60°-70°	43.4	6.4
70°-80°	17.2	2.6
80°-90°	3.3	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°	279.1	41.5
0°-40°	417.5	62.1
0°-60°	608.6	90.5
0°-90°	672.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	672.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	416	416	416	416	416	
5°	410	415	408	406	408	39
15°	390	386	365	352	348	110
25°	353	335	295	265	254	163
35°	304	272	212	172	159	190
45°	247	202	130	92	81	190
55°	186	130	62	41	38	166
65°	123	62	24	17	16	122
75°	60	16	7	6	6	64
85°	9	2	2	2	2	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	415.8	415.8	415.8	415.8	415.8
2.5°	412.0	417.0	413.5	413.9	414.7
5°	410.0	414.7	408.5	406.5	408.5
7.5°	406.5	410.0	400.7	396.9	397.6
10°	402.3	403.4	390.7	384.1	383.3
12.5°	396.9	395.3	378.7	369.0	366.7
15°	389.9	385.6	364.7	351.9	347.7
17.5°	381.8	374.4	349.2	332.6	326.4
20°	373.2	362.4	332.2	310.9	303.2
22.5°	363.2	349.6	314.0	288.1	279.2
25°	352.7	335.3	294.6	264.8	254.0
27.5°	341.9	320.6	274.5	241.2	230.4
30°	329.9	304.7	253.6	217.6	204.4
32.5°	317.1	288.4	232.7	194.4	182.0
35°	303.9	271.8	211.8	171.5	159.1
37.5°	290.4	254.8	190.9	149.8	137.4
40°	276.1	237.3	170.0	129.3	117.3
42.5°	261.3	219.5	149.8	110.0	98.7
45°	247.0	201.7	130.5	91.8	80.9
47.5°	231.9	183.9	111.5	74.7	65.4
50°	216.8	166.1	93.3	60.0	53.8
52.5°	201.3	148.3	76.7	49.2	44.9
55°	185.8	130.5	61.6	41.0	38.3
57.5°	170.4	112.7	47.6	34.8	31.7
60°	154.9	95.2	37.2	28.3	25.6
62.5°	139.0	77.8	30.6	22.5	20.1
65°	123.1	61.9	24.4	17.4	15.9
67.5°	107.2	47.2	18.6	13.6	12.4
70°	90.2	33.7	13.9	10.5	10.1
72.5°	75.5	22.8	10.1	8.1	7.7
75°	59.6	16.3	7.4	6.2	5.8
77.5°	46.1	10.5	5.4	5.0	4.6
80°	32.1	5.8	3.9	3.5	3.5
82.5°	19.7	3.1	2.7	2.3	2.3
85°	8.9	1.5	1.5	1.5	1.5
87.5°	1.5	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	15.25	16.66	15.61	16.97	17.28	6.33	7.74	6.69	8.05	8.36
	3H	16.83	18.09	17.21	18.41	18.78	6.93	8.18	7.31	8.51	8.87
	4H	17.43	18.60	17.83	18.95	19.33	7.08	8.25	7.48	8.60	8.98
	6H	17.86	18.94	18.27	19.30	19.70	7.19	8.26	7.60	8.63	9.03
	8H	17.97	18.99	18.40	19.38	19.79	7.21	8.23	7.64	8.62	9.02
	12H	18.02	18.99	18.45	19.37	19.80	7.21	8.19	7.65	8.57	9.00
4H	2H	15.10	16.27	15.50	16.62	17.00	6.91	8.08	7.32	8.43	8.81
	3H	16.75	17.71	17.16	18.11	18.51	7.63	8.59	8.04	8.99	9.40
	4H	17.36	18.21	17.79	18.63	19.07	7.83	8.69	8.27	9.11	9.55
	6H	17.85	18.59	18.31	19.03	19.50	8.00	8.74	8.46	9.19	9.65
	8H	17.99	18.68	18.46	19.13	19.60	8.03	8.72	8.50	9.17	9.64
	12H	18.06	18.68	18.55	19.16	19.63	8.05	8.67	8.54	9.15	9.62
8H	4H	17.25	17.94	17.72	18.39	18.86	8.11	8.80	8.57	9.24	9.71
	6H	17.73	18.30	18.23	18.79	19.27	8.31	8.88	8.81	9.37	9.85
	8H	17.87	18.38	18.39	18.89	19.39	8.37	8.87	8.89	9.39	9.88
	12H	17.96	18.41	18.48	18.91	19.47	8.42	8.87	8.93	9.36	9.93
12H	4H	17.21	17.82	17.69	18.30	18.78	8.13	8.75	8.62	9.23	9.70
	6H	17.67	18.18	18.19	18.70	19.19	8.34	8.85	8.86	9.36	9.85
	8H	17.84	18.29	18.35	18.78	19.35	8.43	8.88	8.94	9.37	9.94