

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: P1056144

Luminaire Tested: S124R3DR-H350D830-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056144
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-7)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H350D830-X4F0-XX-UDD-FLL-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

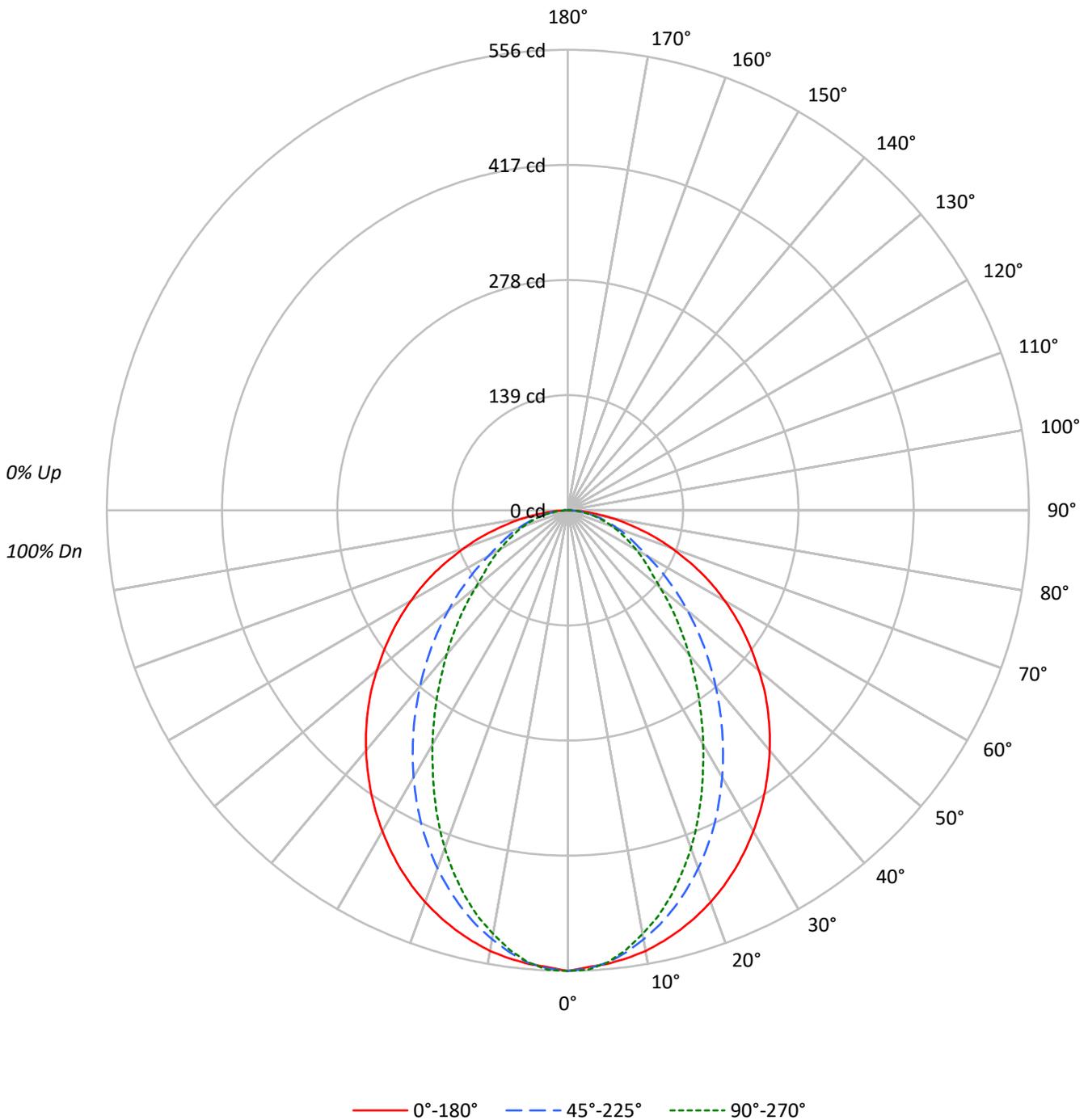
Lumens per Lamp: N/A
Luminaire Lumens: 1107.7 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	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	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86																												
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73																												
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63																												
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55																												
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49																												
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43																												
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39																												
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35																												
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32																												
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4918	4918	4918
5°	4878	4867	4864
10°	4850	4721	4662
15°	4798	4544	4405
20°	4736	4328	4085
25°	4659	4080	3713
30°	4567	3798	3334
35°	4471	3502	2968
40°	4370	3198	2626
45°	4262	2901	2308
50°	4132	2590	1993
55°	4006	2277	1811
60°	3864	1954	1678
65°	3690	1772	1567
70°	3428	1639	1481
75°	3105	1510	1397
80°	2709	1395	1314
85°	2080	1288	1207

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4262 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.8	4.7
10°-20°	140.5	12.7
20°-30°	194.5	17.6
30°-40°	208.7	18.8
40°-50°	189.8	17.1
50°-60°	149.5	13.5
60°-70°	102.3	9.2
70°-80°	55.1	5.0
80°-90°	15.6	1.4
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°	386.7	34.9
0°-40°	595.4	53.8
0°-60°	934.7	84.4
0°-90°	1107.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1107.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	556	556	556	556	556	
5°	550	556	548	546	548	52
15°	524	518	496	483	481	148
25°	478	458	418	388	381	220
35°	414	382	324	285	275	259
45°	341	298	232	192	185	263
55°	260	210	148	119	118	232
65°	176	126	85	75	75	174
75°	91	55	44	40	41	97
85°	20	14	13	12	12	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	556.2	556.2	556.2	556.2	556.2
2.5°	552.1	558.6	553.7	554.5	555.3
5°	549.6	555.8	548.4	545.5	548.0
7.5°	545.5	549.6	538.2	532.8	535.3
10°	540.2	541.0	525.9	518.1	519.3
12.5°	532.8	530.8	512.4	501.3	502.1
15°	524.2	518.5	496.4	482.9	481.3
17.5°	514.4	505.0	478.8	461.6	458.4
20°	503.4	490.7	460.0	437.9	434.2
22.5°	491.1	474.7	439.5	413.3	408.0
25°	477.6	457.9	418.2	388.0	380.6
27.5°	462.9	439.9	395.3	362.2	352.8
30°	447.3	421.1	372.0	336.4	326.6
32.5°	431.3	401.9	348.3	310.6	300.4
35°	414.2	381.8	324.5	285.2	275.0
37.5°	396.6	361.0	300.4	260.7	250.0
40°	378.6	340.1	277.1	236.1	227.5
42.5°	360.1	318.8	254.1	213.2	205.4
45°	340.9	297.5	232.0	191.9	184.6
47.5°	321.3	275.8	209.5	171.9	164.9
50°	300.4	254.1	188.3	152.2	144.9
52.5°	280.3	232.0	167.8	133.0	129.3
55°	259.9	210.4	147.7	119.1	117.5
57.5°	239.4	188.7	129.3	108.0	106.4
60°	218.5	167.4	110.5	96.6	94.9
62.5°	197.7	146.5	96.6	85.5	84.7
65°	176.4	126.0	84.7	75.3	74.9
67.5°	153.9	106.4	74.1	66.3	65.9
70°	132.6	86.8	63.4	57.3	57.3
72.5°	112.5	68.8	53.6	48.7	48.7
75°	90.9	55.2	44.2	40.5	40.9
77.5°	71.6	43.4	35.6	33.1	33.1
80°	53.2	32.3	27.4	25.4	25.8
82.5°	36.0	22.5	19.6	18.4	18.4
85°	20.5	13.9	12.7	11.9	11.9
87.5°	7.4	6.5	6.1	5.3	5.7
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	16.68	18.20	17.04	18.51	18.83	12.45	13.98	12.82	14.29	14.60
	3H	18.45	19.82	18.83	20.15	20.51	14.06	15.43	14.44	15.76	16.12
	4H	19.12	20.41	19.52	20.76	21.14	14.69	15.98	15.09	16.33	16.71
	6H	19.63	20.82	20.04	21.19	21.58	15.19	16.38	15.61	16.75	17.14
	8H	19.79	20.93	20.22	21.32	21.72	15.36	16.50	15.79	16.89	17.29
	12H	19.89	20.98	20.32	21.36	21.79	15.49	16.57	15.92	16.95	17.38
4H	2H	16.77	18.06	17.17	18.41	18.78	13.17	14.46	13.57	14.80	15.18
	3H	18.72	19.79	19.13	20.19	20.59	14.98	16.05	15.39	16.45	16.85
	4H	19.47	20.44	19.90	20.85	21.29	15.71	16.68	16.15	17.09	17.53
	6H	20.11	20.95	20.56	21.39	21.85	16.33	17.17	16.79	17.61	18.07
	8H	20.33	21.11	20.79	21.55	22.02	16.55	17.33	17.01	17.78	18.24
	12H	20.48	21.18	20.96	21.66	22.13	16.71	17.42	17.20	17.89	18.36
8H	4H	19.53	20.31	19.99	20.76	21.22	16.10	16.89	16.57	17.33	17.80
	6H	20.23	20.88	20.72	21.37	21.84	16.83	17.48	17.33	17.97	18.45
	8H	20.50	21.08	21.01	21.59	22.08	17.12	17.71	17.64	18.22	18.70
	12H	20.71	21.23	21.22	21.72	22.28	17.37	17.88	17.88	18.38	18.94
12H	4H	19.52	20.22	20.00	20.70	21.17	16.16	16.86	16.64	17.34	17.81
	6H	20.22	20.80	20.73	21.31	21.80	16.92	17.50	17.43	18.01	18.50
	8H	20.53	21.04	21.04	21.54	22.10	17.27	17.78	17.78	18.27	18.84