

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: P1055311

Luminaire Tested: S122R3DR-H290D840-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055311
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-2)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H290D840-X4F0-XX-UDD-FLL-B
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

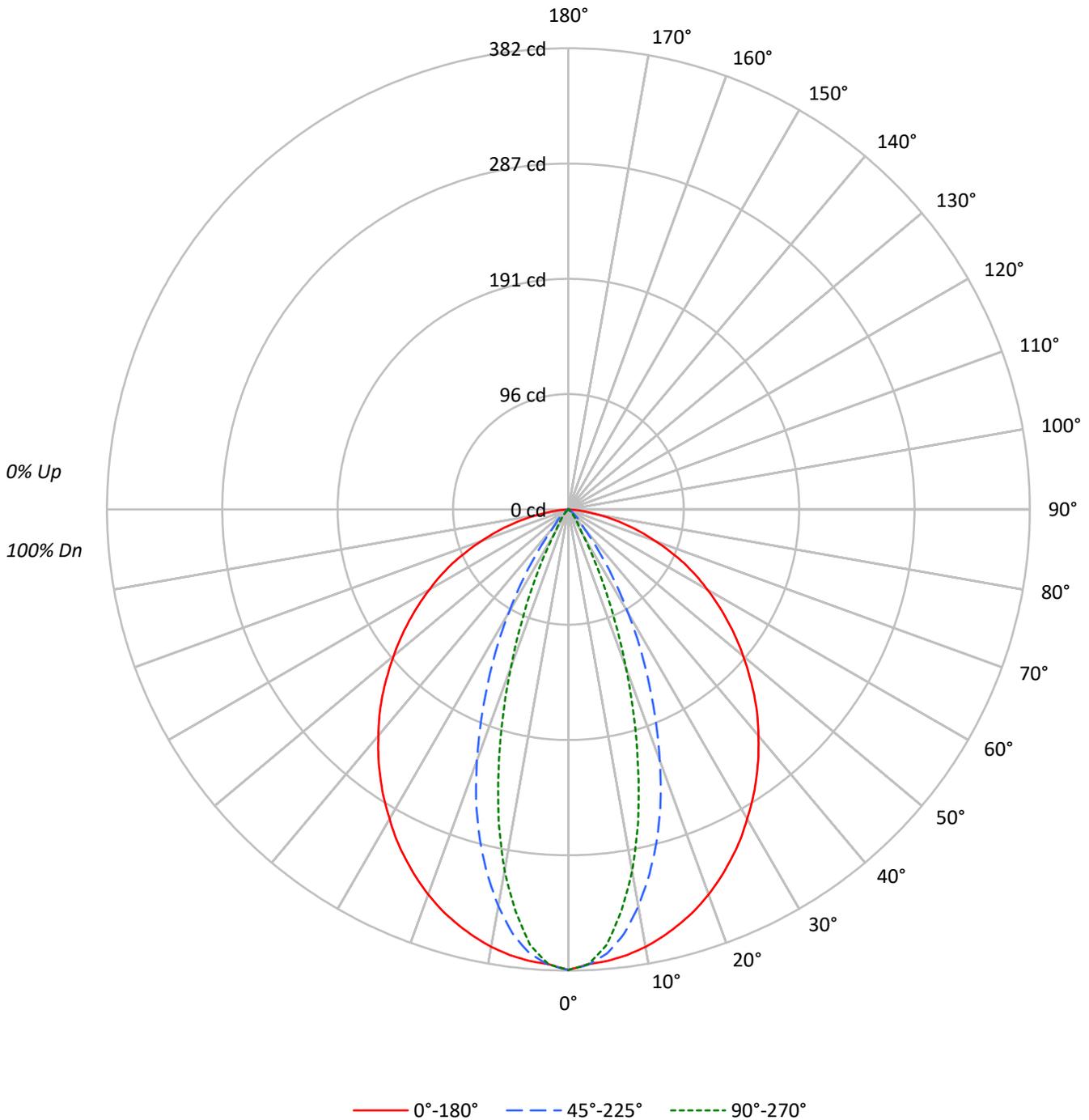
Lumens per Lamp: N/A
Luminaire Lumens: 347.0 lumens
Efficiency: N/A
Efficacy: 29.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1055311

CATALOG NUMBER: S122R3DR-H290D840-X4F0-XX-UDD-FLL-B

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	112	109	106	103	110	106	104	101	102	100	98	99	97	95	95	94	92	91					91			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	81					81			
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74					74			
4	92	83	77	72	90	82	76	71	80	75	70	78	73	70	76	72	69	67					67			
5	87	77	70	65	85	76	70	65	74	69	64	72	68	64	71	67	63	61					61			
6	82	72	65	60	80	71	64	59	69	63	59	68	63	59	66	62	58	57					57			
7	77	67	60	55	76	66	59	55	65	59	55	63	58	54	62	57	54	52					52			
8	73	62	56	51	72	62	55	51	61	55	51	60	54	50	59	54	50	49					49			
9	70	59	52	48	68	58	52	47	57	51	47	56	51	47	55	50	47	45					45			
10	66	55	49	45	65	55	49	44	54	48	44	53	48	44	52	48	44	43					43			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7228	7228	7228
5°	7138	7022	6888
10°	7078	6420	5846
15°	6975	5557	4378
20°	6843	4464	2802
25°	6673	3272	1438
30°	6476	2140	470
35°	6277	1186	273
40°	6052	477	151
45°	5828	316	59
50°	5571	180	27
55°	5315	86	13
60°	5036	34	0
65°	4738	18	0
70°	4249	22	0
75°	3660	29	0
80°	2771	0	0
85°	1152	87	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5828 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.2	9.9
10°-20°	79.5	22.9
20°-30°	80.7	23.2
30°-40°	60.5	17.4
40°-50°	42.4	12.2
50°-60°	25.9	7.5
60°-70°	15.4	4.5
70°-80°	7.1	2.0
80°-90°	1.3	0.4
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°	194.3	56.0
0°-40°	254.9	73.4
0°-60°	323.2	93.1
0°-90°	347.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	347.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	382	382	382	382	382	
5°	375	379	369	362	362	36
15°	356	336	283	240	223	100
25°	319	263	156	89	69	147
35°	271	177	51	15	12	170
45°	218	93	12	4	2	168
55°	161	28	3	1	0	144
65°	106	8	0	0	0	104
75°	50	1	0	0	0	53
85°	5	0	0	0	0	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	381.5	381.5	381.5	381.5	381.5
2.5°	377.1	382.8	377.5	376.7	377.1
5°	375.3	378.8	369.2	362.2	362.2
7.5°	372.3	372.3	354.3	339.8	335.4
10°	367.9	363.1	333.7	310.4	303.9
12.5°	362.2	350.8	309.6	276.7	266.2
15°	355.6	336.3	283.3	239.8	223.2
17.5°	348.2	320.1	253.9	199.9	180.7
20°	339.4	302.6	221.4	159.2	139.0
22.5°	329.7	283.3	188.5	122.8	101.3
25°	319.2	263.1	156.5	89.4	68.8
27.5°	308.3	242.0	127.2	61.4	42.1
30°	296.0	220.1	97.8	36.4	21.5
32.5°	284.1	199.1	73.2	19.7	15.8
35°	271.4	176.7	51.3	15.3	11.8
37.5°	258.3	155.7	31.6	11.4	8.8
40°	244.7	134.2	19.3	8.3	6.1
42.5°	231.5	114.0	15.3	5.7	3.9
45°	217.5	93.4	11.8	3.5	2.2
47.5°	203.0	74.5	8.8	2.2	1.3
50°	189.0	57.9	6.1	1.3	0.9
52.5°	175.0	42.5	3.9	0.9	0.4
55°	160.9	28.5	2.6	0.9	0.4
57.5°	146.9	20.2	1.8	0.4	0.4
60°	132.9	15.8	0.9	0.4	0.0
62.5°	119.7	12.3	0.9	0.4	0.4
65°	105.7	8.3	0.4	0.4	0.0
67.5°	90.8	5.3	0.4	0.4	0.0
70°	76.7	3.1	0.4	0.4	0.0
72.5°	63.1	1.8	0.4	0.4	0.0
75°	50.0	0.9	0.4	0.4	0.0
77.5°	37.3	0.4	0.0	0.4	0.0
80°	25.4	0.0	0.0	0.4	0.0
82.5°	14.9	0.0	0.0	0.4	0.0
85°	5.3	0.0	0.4	0.4	0.0
87.5°	0.0	0.0	0.4	0.4	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	13.09	14.35	13.45	14.66	14.98	0.00	0.00	0.00	0.00	0.00
	3H	16.83	17.95	17.21	18.28	18.64	0.00	0.00	0.00	0.00	0.00
	4H	18.14	19.18	18.54	19.53	19.92	0.00	0.00	0.00	0.00	0.00
	6H	18.99	19.95	19.41	20.32	20.71	0.00	0.00	0.00	0.00	0.00
	8H	19.21	20.11	19.64	20.50	20.91	0.00	0.00	0.00	0.00	0.00
	12H	19.27	20.13	19.70	20.52	20.95	0.00	0.00	0.00	0.00	0.00
4H	2H	12.84	13.88	13.25	14.23	14.62	0.00	0.00	0.00	0.00	0.00
	3H	16.58	17.44	17.00	17.84	18.24	0.00	0.00	0.00	0.00	0.00
	4H	17.88	18.64	18.31	19.06	19.50	0.00	0.00	0.00	0.00	0.00
	6H	18.80	19.45	19.26	19.90	20.37	0.00	0.00	0.00	0.00	0.00
	8H	19.05	19.67	19.52	20.11	20.58	0.00	0.00	0.00	0.00	0.00
	12H	19.16	19.69	19.64	20.18	20.65	0.00	0.00	0.00	0.00	0.00
8H	4H	17.73	18.34	18.20	18.79	19.26	0.00	0.00	0.00	0.00	0.00
	6H	18.63	19.13	19.14	19.63	20.11	0.00	0.00	0.00	0.00	0.00
	8H	18.89	19.33	19.41	19.85	20.34	0.00	0.00	0.00	0.00	0.00
	12H	19.01	19.40	19.52	19.89	20.47	0.00	0.00	0.00	0.00	0.00
12H	4H	17.68	18.22	18.17	18.71	19.18	0.00	0.00	0.00	0.00	0.00
	6H	18.57	19.01	19.09	19.53	20.02	0.00	0.00	0.00	0.00	0.00
	8H	18.85	19.23	19.36	19.73	20.30	0.00	0.00	0.00	0.00	0.00