

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: P1055319

Luminaire Tested: S122R3DR-H290D927-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055319
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-1)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H290D927-X4F0-XX-UDD-F-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

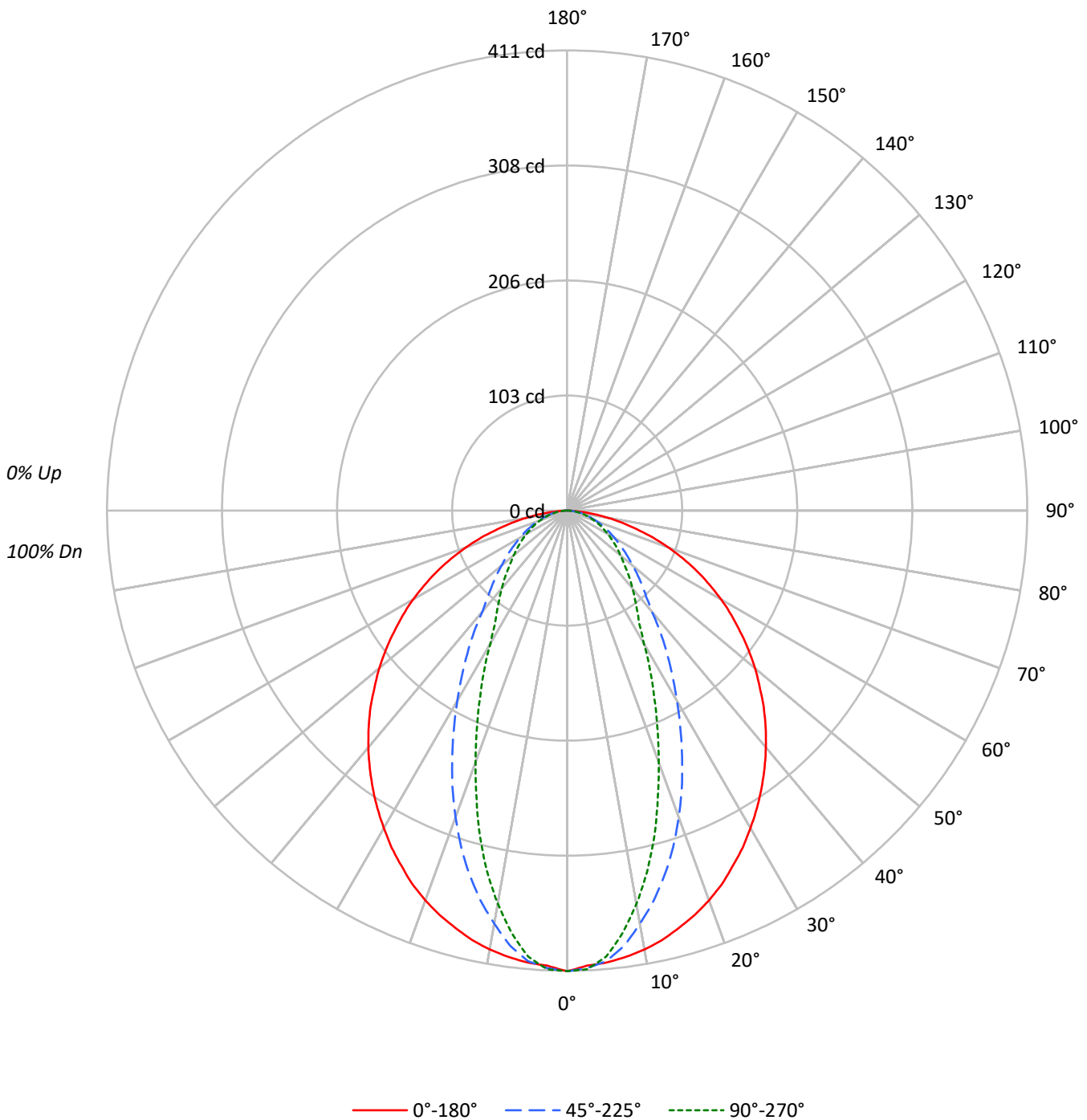
Lumens per Lamp: N/A
Luminaire Lumens: 622.2 lumens
Efficiency: N/A
Efficacy: 53.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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

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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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89	87				87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75				75
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66				66
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60	58				58
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52				52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46				46
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42				42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38				38
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				35
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34	32				32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7794	7794	7794
5°	7706	7680	7607
10°	7657	7207	6862
15°	7569	6604	5904
20°	7468	5873	4821
25°	7321	5076	3846
30°	7162	4290	3001
35°	7001	3587	2521
40°	6831	2908	2246
45°	6653	2543	2010
50°	6458	2252	1836
55°	6236	2035	1704
60°	6021	1849	1591
65°	5738	1695	1497
70°	5318	1579	1413
75°	4707	1435	1332
80°	4015	1353	1244
85°	2761	1196	1130

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6653 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	6.1
10°-20°	95.2	15.3
20°-30°	117.3	18.8
30°-40°	112.5	18.1
40°-50°	97.0	15.6
50°-60°	75.3	12.1
60°-70°	51.6	8.3
70°-80°	28.0	4.5
80°-90°	7.7	1.2
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°	250.1	40.2
0°-40°	362.7	58.3
0°-60°	535.0	86.0
0°-90°	622.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	622.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	411	411	411	411	411	
5°	405	411	404	399	400	38
15°	386	374	337	309	301	109
25°	350	313	243	198	184	161
35°	303	240	155	116	109	189
45°	248	167	95	78	75	191
55°	189	100	62	53	52	169
65°	128	55	38	34	33	126
75°	64	25	20	19	18	69
85°	13	6	6	6	5	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	411.4	411.4	411.4	411.4	411.4
2.5°	406.9	413.8	409.0	409.0	410.0
5°	405.2	411.0	403.8	398.6	400.0
7.5°	402.1	406.2	391.8	380.8	380.4
10°	398.0	398.3	374.6	360.1	356.7
12.5°	392.8	387.3	357.0	335.4	330.2
15°	385.9	374.2	336.7	309.2	301.0
17.5°	378.7	360.8	315.1	280.7	269.3
20°	370.4	344.6	291.3	252.1	239.1
22.5°	361.2	329.2	267.6	224.6	210.8
25°	350.2	312.7	242.8	198.1	184.0
27.5°	339.5	295.8	219.1	174.7	160.3
30°	327.4	277.6	196.1	152.4	137.2
32.5°	315.4	259.0	174.7	131.0	119.7
35°	302.7	240.1	155.1	115.6	109.0
37.5°	289.6	221.5	136.6	105.3	99.4
40°	276.2	202.9	117.6	95.3	90.8
42.5°	262.4	184.7	104.6	87.0	82.9
45°	248.3	167.2	94.9	78.4	75.0
47.5°	233.2	149.6	85.6	71.2	68.1
50°	219.1	132.8	76.4	64.7	62.3
52.5°	204.0	116.3	68.8	58.8	56.8
55°	188.8	100.4	61.6	53.3	51.6
57.5°	174.0	85.3	54.7	48.2	46.8
60°	158.9	73.3	48.8	43.3	42.0
62.5°	143.4	63.6	43.3	38.9	37.5
65°	128.0	54.7	37.8	34.4	33.4
67.5°	111.8	46.1	33.0	30.3	29.6
70°	96.0	38.5	28.5	26.1	25.5
72.5°	80.5	31.3	24.1	22.4	21.7
75°	64.3	25.1	19.6	18.6	18.2
77.5°	50.2	19.6	15.8	15.1	14.8
80°	36.8	14.4	12.4	11.7	11.4
82.5°	24.4	10.0	8.9	8.6	8.3
85°	12.7	6.2	5.5	5.5	5.2
87.5°	4.1	2.8	2.8	2.8	2.4
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	16.74	18.21	17.11	18.52	18.84	11.55	13.02	11.92	13.34	13.65
	3H	19.07	20.39	19.45	20.72	21.08	13.20	14.52	13.58	14.85	15.21
	4H	19.97	21.20	20.37	21.55	21.93	13.84	15.07	14.24	15.42	15.80
	6H	20.63	21.77	21.04	22.14	22.53	14.33	15.47	14.74	15.84	16.23
	8H	20.84	21.92	21.26	22.31	22.71	14.50	15.59	14.93	15.98	16.38
	12H	20.95	21.99	21.38	22.37	22.80	14.62	15.66	15.05	16.04	16.47
4H	2H	16.76	17.99	17.16	18.34	18.72	12.27	13.50	12.67	13.85	14.23
	3H	19.17	20.20	19.58	20.60	21.00	14.11	15.14	14.53	15.54	15.94
	4H	20.10	21.02	20.53	21.44	21.88	14.86	15.78	15.29	16.20	16.64
	6H	20.88	21.68	21.34	22.12	22.58	15.48	16.28	15.94	16.72	17.18
	8H	21.15	21.90	21.61	22.34	22.81	15.69	16.44	16.16	16.89	17.36
	12H	21.32	21.99	21.81	22.47	22.94	15.86	16.53	16.34	17.00	17.48
8H	4H	20.09	20.84	20.56	21.29	21.76	15.24	15.99	15.70	16.43	16.90
	6H	20.90	21.52	21.40	22.01	22.49	15.98	16.60	16.48	17.09	17.57
	8H	21.20	21.76	21.72	22.27	22.76	16.27	16.83	16.79	17.34	17.83
	12H	21.43	21.92	21.94	22.41	22.98	16.52	17.01	17.03	17.50	18.07
12H	4H	20.07	20.74	20.56	21.22	21.69	15.30	15.96	15.78	16.44	16.92
	6H	20.88	21.43	21.39	21.94	22.43	16.06	16.62	16.58	17.13	17.62
	8H	21.21	21.70	21.72	22.19	22.76	16.42	16.91	16.93	17.40	17.97