

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: P1055307

Luminaire Tested: S122R3DR-H290D830-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055307
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-H290D830-X4F0-XX-UDD-FLL-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

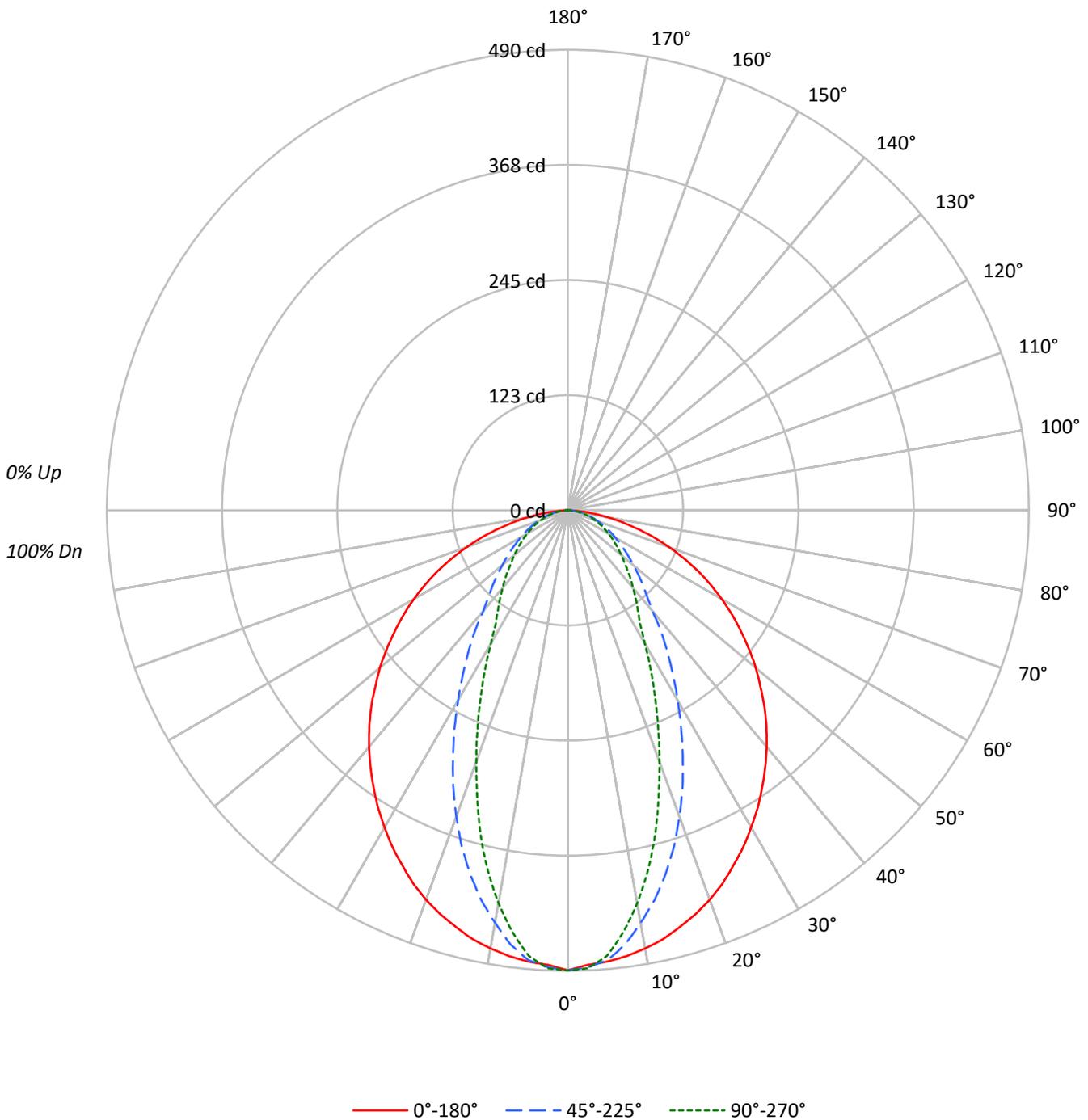
Lumens per Lamp: N/A
Luminaire Lumens: 740.3 lumens
Efficiency: N/A
Efficacy: 63.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (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	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89	87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60	58
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9274	9274	9274
5°	9169	9138	9053
10°	9109	8574	8165
15°	9007	7859	7024
20°	8887	6988	5734
25°	8709	6039	4576
30°	8523	5104	3572
35°	8329	4270	3000
40°	8127	3462	2671
45°	7917	3028	2390
50°	7684	2679	2184
55°	7422	2421	2028
60°	7165	2202	1891
65°	6823	2017	1780
70°	6326	1883	1678
75°	5600	1706	1588
80°	4779	1604	1473
85°	3282	1413	1326

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7917 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.9	6.1
10°-20°	113.2	15.3
20°-30°	139.5	18.8
30°-40°	133.9	18.1
40°-50°	115.5	15.6
50°-60°	89.6	12.1
60°-70°	61.3	8.3
70°-80°	33.3	4.5
80°-90°	9.1	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°	297.6	40.2
0°-40°	431.5	58.3
0°-60°	636.6	86.0
0°-90°	740.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	740.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	482	489	480	474	476	46
15°	459	445	401	368	358	130
25°	417	372	289	236	219	192
35°	360	286	185	138	130	225
45°	296	199	113	93	89	228
55°	225	120	73	63	61	201
65°	152	65	45	41	40	150
75°	76	30	23	22	22	82
85°	15	7	6	6	6	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	489.5	489.5	489.5	489.5	489.5
2.5°	484.1	492.3	486.6	486.6	487.8
5°	482.1	489.0	480.5	474.3	476.0
7.5°	478.4	483.3	466.1	453.0	452.6
10°	473.5	473.9	445.7	428.5	424.4
12.5°	467.4	460.8	424.8	399.0	392.9
15°	459.2	445.3	400.7	367.9	358.1
17.5°	450.6	429.3	374.9	333.9	320.4
20°	440.8	410.1	346.6	300.0	284.4
22.5°	429.7	391.6	318.4	267.2	250.9
25°	416.6	372.0	288.9	235.7	218.9
27.5°	403.9	352.0	260.7	207.9	190.7
30°	389.6	330.3	233.3	181.3	163.3
32.5°	375.3	308.2	207.9	155.9	142.4
35°	360.1	285.7	184.6	137.5	129.7
37.5°	344.6	263.6	162.5	125.2	118.3
40°	328.6	241.5	140.0	113.4	108.0
42.5°	312.3	219.8	124.4	103.5	98.6
45°	295.5	198.9	113.0	93.3	89.2
47.5°	277.5	178.0	101.9	84.7	81.0
50°	260.7	158.0	90.9	76.9	74.1
52.5°	242.7	138.3	81.8	70.0	67.5
55°	224.7	119.5	73.3	63.4	61.4
57.5°	207.1	101.5	65.1	57.3	55.7
60°	189.1	87.2	58.1	51.6	49.9
62.5°	170.7	75.7	51.6	46.2	44.6
65°	152.2	65.1	45.0	40.9	39.7
67.5°	133.0	54.8	39.3	36.0	35.2
70°	114.2	45.8	34.0	31.1	30.3
72.5°	95.8	37.2	28.6	26.6	25.8
75°	76.5	29.9	23.3	22.1	21.7
77.5°	59.7	23.3	18.8	18.0	17.6
80°	43.8	17.2	14.7	13.9	13.5
82.5°	29.1	11.9	10.6	10.2	9.8
85°	15.1	7.4	6.5	6.5	6.1
87.5°	4.9	3.3	3.3	3.3	2.9
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	17.35	18.82	17.71	19.13	19.44	12.15	13.62	12.52	13.94	14.25
	3H	19.68	20.99	20.05	21.32	21.68	13.80	15.12	14.18	15.45	15.81
	4H	20.57	21.81	20.97	22.16	22.53	14.44	15.67	14.84	16.02	16.40
	6H	21.23	22.37	21.65	22.74	23.13	14.93	16.07	15.34	16.44	16.83
	8H	21.44	22.53	21.87	22.92	23.32	15.10	16.18	15.53	16.57	16.98
	12H	21.56	22.60	21.99	22.98	23.41	15.21	16.25	15.64	16.63	17.06
4H	2H	17.36	18.60	17.76	18.95	19.33	12.87	14.10	13.27	14.45	14.83
	3H	19.77	20.80	20.19	21.20	21.60	14.72	15.74	15.13	16.14	16.54
	4H	20.70	21.63	21.14	22.04	22.48	15.46	16.39	15.90	16.80	17.24
	6H	21.48	22.28	21.94	22.73	23.19	16.08	16.88	16.54	17.32	17.78
	8H	21.75	22.50	22.22	22.95	23.42	16.29	17.04	16.76	17.49	17.96
	12H	21.93	22.60	22.41	23.08	23.55	16.45	17.12	16.94	17.60	18.07
8H	4H	20.70	21.45	21.16	21.89	22.36	15.84	16.59	16.31	17.04	17.50
	6H	21.50	22.12	22.00	22.61	23.09	16.58	17.20	17.08	17.69	18.17
	8H	21.81	22.36	22.32	22.87	23.36	16.87	17.43	17.39	17.94	18.43
	12H	22.04	22.53	22.55	23.02	23.59	17.11	17.60	17.62	18.10	18.66
12H	4H	20.68	21.35	21.16	21.83	22.30	15.90	16.57	16.38	17.05	17.52
	6H	21.48	22.03	22.00	22.55	23.03	16.66	17.22	17.18	17.73	18.22
	8H	21.82	22.30	22.33	22.80	23.36	17.02	17.51	17.53	18.00	18.57