

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: P1055338

Luminaire Tested: S122R3DR-H485D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055338
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-H485D840-X4F0-XX-UDD-F-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

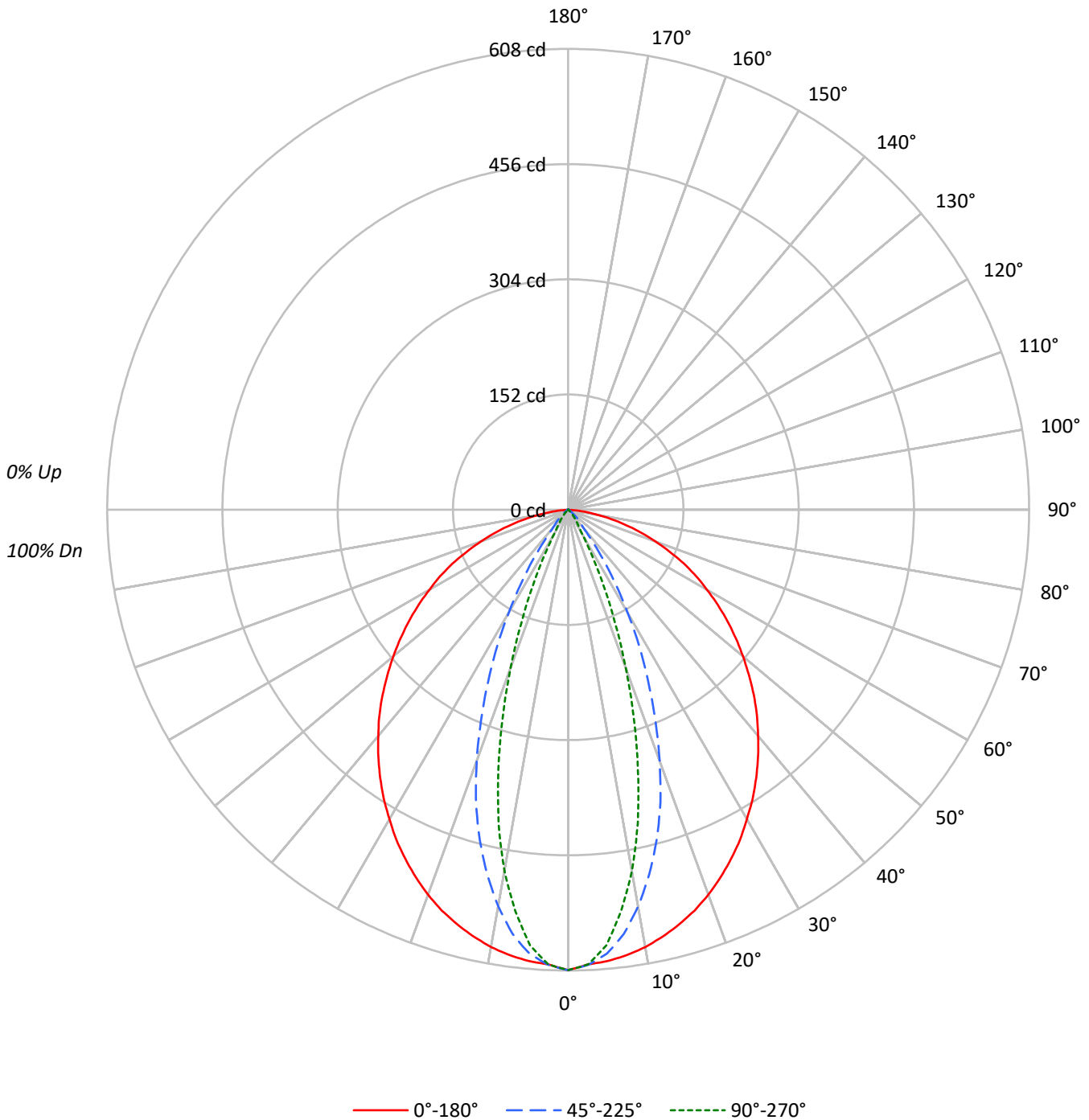
Lumens per Lamp: N/A
Luminaire Lumens: 552.7 lumens
Efficiency: N/A
Efficacy: 31.9 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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	112	109	106	103	110	106	104	101	102	100	98	99	97	95	95	94	92	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	81
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74
4	92	83	77	72	90	82	76	71	80	75	70	78	73	70	76	72	69	67
5	87	77	70	65	85	76	70	65	74	69	64	72	68	64	71	66	63	61
6	82	72	65	60	80	71	64	59	69	63	59	68	62	59	66	62	58	56
7	77	67	60	55	76	66	59	55	65	59	55	63	58	54	62	57	54	52
8	73	62	56	51	72	62	55	51	61	55	51	60	54	50	59	54	50	49
9	70	59	52	48	68	58	52	47	57	51	47	56	51	47	55	50	47	45
10	66	55	49	45	65	55	49	44	54	48	44	53	48	44	52	47	44	43

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11510	11510	11510
5°	11367	11181	10970
10°	11272	10223	9309
15°	11108	8848	6971
20°	10897	7109	4464
25°	10626	5211	2291
30°	10311	3406	748
35°	9996	1890	437
40°	9636	759	242
45°	9279	506	94
50°	8872	289	41
55°	8466	139	23
60°	8018	53	0
65°	7545	31	0
70°	6769	39	0
75°	5827	51	0
80°	4419	0	0
85°	1826	152	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9279 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.5	9.9
10°-20°	126.5	22.9
20°-30°	128.5	23.2
30°-40°	96.4	17.4
40°-50°	67.5	12.2
50°-60°	41.3	7.5
60°-70°	24.6	4.5
70°-80°	11.4	2.1
80°-90°	2.0	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°	309.5	56.0
0°-40°	405.9	73.4
0°-60°	514.7	93.1
0°-90°	552.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	552.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	608	608	608	608	608	
5°	598	603	588	577	577	57
15°	566	536	451	382	355	160
25°	508	419	249	142	110	234
35°	432	281	82	24	19	270
45°	346	149	19	6	4	267
55°	256	45	4	1	1	229
65°	168	13	1	1	0	166
75°	80	1	1	1	0	85
85°	8	0	1	1	0	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	607.5	607.5	607.5	607.5	607.5
2.5°	600.5	609.6	601.2	599.8	600.5
5°	597.7	603.3	587.9	576.8	576.8
7.5°	592.8	592.8	564.2	541.2	534.2
10°	585.9	578.2	531.4	494.4	483.9
12.5°	576.8	558.6	493.0	440.6	423.9
15°	566.3	535.6	451.1	382.0	355.4
17.5°	554.4	509.7	404.3	318.4	287.7
20°	540.5	481.8	352.6	253.5	221.4
22.5°	525.1	451.1	300.3	195.5	161.3
25°	508.3	419.0	249.3	142.4	109.6
27.5°	490.9	385.4	202.5	97.8	67.0
30°	471.3	350.5	155.7	58.0	34.2
32.5°	452.5	317.0	116.6	31.4	25.1
35°	432.2	281.4	81.7	24.4	18.9
37.5°	411.3	247.9	50.3	18.2	14.0
40°	389.6	213.7	30.7	13.3	9.8
42.5°	368.7	181.6	24.4	9.1	6.3
45°	346.3	148.7	18.9	5.6	3.5
47.5°	323.3	118.7	14.0	3.5	2.1
50°	301.0	92.2	9.8	2.1	1.4
52.5°	278.6	67.7	6.3	1.4	0.7
55°	256.3	45.4	4.2	1.4	0.7
57.5°	233.9	32.1	2.8	0.7	0.7
60°	211.6	25.1	1.4	0.7	0.0
62.5°	190.6	19.6	1.4	0.7	0.7
65°	168.3	13.3	0.7	0.7	0.0
67.5°	144.5	8.4	0.7	0.7	0.0
70°	122.2	4.9	0.7	0.7	0.0
72.5°	100.6	2.8	0.7	0.7	0.0
75°	79.6	1.4	0.7	0.7	0.0
77.5°	59.4	0.7	0.0	0.7	0.0
80°	40.5	0.0	0.0	0.7	0.0
82.5°	23.7	0.0	0.0	0.7	0.0
85°	8.4	0.0	0.7	0.7	0.0
87.5°	0.0	0.0	0.7	0.7	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	14.70	15.96	15.06	16.27	16.58	0.00	0.00	0.00	0.00	0.00
	3H	18.44	19.56	18.82	19.89	20.25	0.00	0.00	0.00	0.00	0.00
	4H	19.75	20.79	20.16	21.14	21.53	0.00	0.00	0.00	0.00	0.00
	6H	20.61	21.56	21.02	21.93	22.33	0.00	0.00	0.00	0.00	0.00
	8H	20.82	21.72	21.25	22.12	22.52	0.00	0.00	0.00	0.00	0.00
	12H	20.88	21.75	21.32	22.13	22.56	0.00	0.00	0.00	0.00	0.00
4H	2H	14.45	15.49	14.85	15.84	16.23	0.00	0.00	0.00	0.00	0.00
	3H	18.19	19.05	18.61	19.45	19.86	0.00	0.00	0.00	0.00	0.00
	4H	19.49	20.25	19.93	20.67	21.12	0.00	0.00	0.00	0.00	0.00
	6H	20.41	21.07	20.87	21.51	21.98	0.00	0.00	0.00	0.00	0.00
	8H	20.67	21.28	21.14	21.73	22.20	0.00	0.00	0.00	0.00	0.00
	12H	20.77	21.31	21.26	21.79	22.27	0.00	0.00	0.00	0.00	0.00
8H	4H	19.35	19.96	19.82	20.41	20.88	0.00	0.00	0.00	0.00	0.00
	6H	20.25	20.74	20.75	21.24	21.72	0.00	0.00	0.00	0.00	0.00
	8H	20.50	20.95	21.03	21.47	21.96	0.00	0.00	0.00	0.00	0.00
	12H	20.62	21.01	21.14	21.51	22.08	0.00	0.00	0.00	0.00	0.00
12H	4H	19.30	19.84	19.78	20.32	20.79	0.00	0.00	0.00	0.00	0.00
	6H	20.18	20.63	20.71	21.15	21.64	0.00	0.00	0.00	0.00	0.00
	8H	20.46	20.85	20.98	21.34	21.92	0.00	0.00	0.00	0.00	0.00