

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: P1439636

Luminaire Tested: S122DR-H290D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439636
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2602-702-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DR-H290D840-X4F0-XX-UDD-FLB-W
Description: DEFINE 2, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

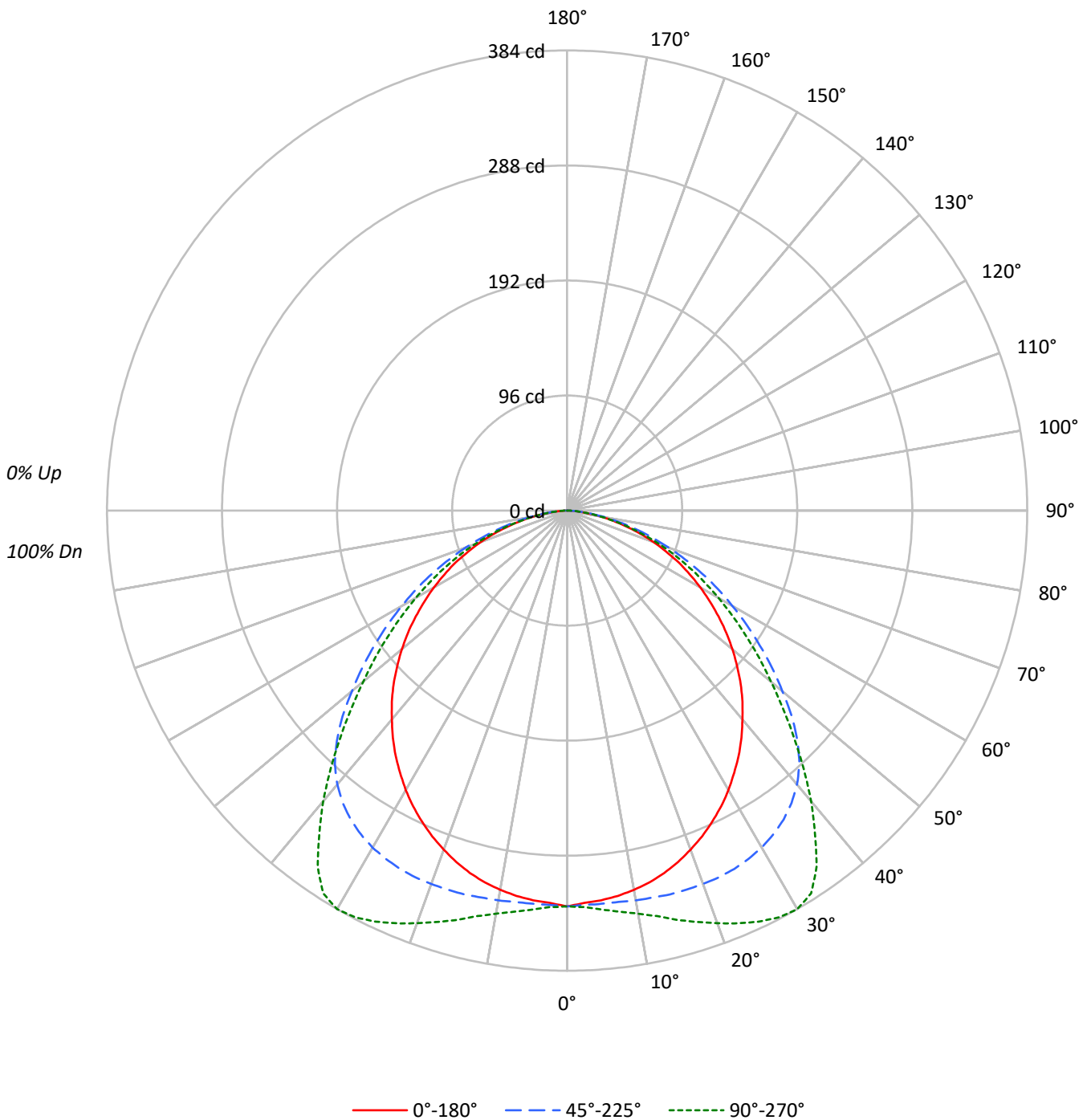
Lumens per Lamp: N/A
Luminaire Lumens: 1015.9 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.56 / 1.51
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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: P1439636

CATALOG NUMBER: S122DR-H290D840-X4F0-XX-UDD-FLB-W

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	109	105	101	97	107	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	91	85	79	97	90	84	78	86	81	76	83	79	75	80	76	73	71					71			
3	91	80	72	66	88	79	71	66	76	70	64	73	68	63	71	66	62	60					60			
4	83	71	63	56	81	70	62	56	68	60	55	65	59	54	63	58	53	51					51			
5	76	64	55	48	74	63	54	48	61	53	47	59	52	47	57	51	46	44					44			
6	71	57	48	42	69	56	48	42	55	47	42	53	46	41	51	45	41	39					39			
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34					34			
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30					30			
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	34	29	27					27			
10	53	40	32	27	52	39	32	27	38	31	27	38	31	26	37	31	26	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6258	6258	6258
5°	6208	6265	6356
10°	6181	6354	6570
15°	6141	6504	6934
20°	6071	6686	7387
25°	5989	6896	7910
30°	5891	7103	8401
35°	5773	7281	8393
40°	5629	7383	7830
45°	5490	7285	7170
50°	5305	6912	6546
55°	5093	6484	6015
60°	4865	6040	5532
65°	4604	5563	5043
70°	4238	4974	4520
75°	3741	4304	3902
80°	3088	3426	3088
85°	2043	2239	2152

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7341 cd/sqm



TEST NUMBER: P1439636

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.6	3.1
10°-20°	94.3	9.3
20°-30°	153.1	15.1
30°-40°	193.7	19.1
40°-50°	194.0	19.1
50°-60°	162.5	16.0
60°-70°	114.5	11.3
70°-80°	59.1	5.8
80°-90°	13.1	1.3
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°	279.0	27.5
0°-40°	472.7	46.5
0°-60°	829.2	81.6
0°-90°	1015.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1015.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	330	330	330	330	330	
5°	326	332	329	331	334	31
15°	313	322	332	345	354	88
25°	286	302	330	362	378	132
35°	250	270	315	356	363	156
45°	205	226	272	274	268	158
55°	154	173	196	188	182	138
65°	103	114	124	116	112	101
75°	51	56	59	54	53	54
85°	9	10	10	10	10	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	330.3	330.3	330.3	330.3	330.3
2.5°	327.7	332.9	329.4	329.9	331.2
5°	326.4	332.0	329.4	331.2	334.2
7.5°	324.3	330.3	329.4	332.9	337.6
10°	321.3	328.2	330.3	336.3	341.5
12.5°	317.8	325.1	330.7	340.2	346.6
15°	313.1	322.1	331.6	344.9	353.5
17.5°	307.5	318.3	331.6	350.1	359.9
20°	301.1	313.6	331.6	354.4	366.4
22.5°	294.2	308.0	331.2	358.2	372.8
25°	286.5	302.0	329.9	362.1	378.4
27.5°	278.3	295.1	327.7	365.1	382.7
30°	269.3	287.3	324.7	366.4	384.0
32.5°	259.4	279.2	320.4	363.8	378.8
35°	249.6	269.7	314.8	355.6	362.9
37.5°	238.8	259.9	307.5	339.8	339.8
40°	227.6	249.1	298.5	317.8	316.6
42.5°	216.5	238.0	286.9	296.4	292.1
45°	204.9	226.4	271.9	274.0	267.6
47.5°	192.4	213.5	254.3	251.3	244.0
50°	180.0	200.6	234.5	229.4	222.1
52.5°	167.5	187.3	215.6	208.3	201.9
55°	154.2	173.1	196.3	188.1	182.1
57.5°	141.3	158.9	177.8	168.8	163.6
60°	128.4	144.3	159.4	150.8	146.0
62.5°	115.5	129.3	141.7	133.2	128.9
65°	102.7	114.3	124.1	116.4	112.5
67.5°	89.3	99.6	106.5	99.6	97.1
70°	76.5	84.6	89.8	83.8	81.6
72.5°	63.6	70.4	73.9	69.2	67.0
75°	51.1	56.3	58.8	54.5	53.3
77.5°	39.1	43.0	44.2	41.2	39.5
80°	28.3	30.5	31.4	29.2	28.3
82.5°	17.6	19.3	20.2	18.5	18.0
85°	9.4	10.3	10.3	10.3	9.9
87.5°	3.4	4.3	4.3	4.3	3.9
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	17.86	19.47	18.22	19.78	20.10	18.37	19.98	18.73	20.30	20.61
	3H	19.43	20.88	19.80	21.21	21.57	19.84	21.29	20.21	21.62	21.98
	4H	19.96	21.33	20.36	21.68	22.05	20.33	21.70	20.73	22.04	22.42
	6H	20.31	21.57	20.72	21.94	22.33	20.63	21.89	21.04	22.26	22.65
	8H	20.39	21.59	20.81	21.98	22.38	20.70	21.91	21.13	22.30	22.70
	12H	20.42	21.58	20.85	21.96	22.39	20.74	21.89	21.17	22.27	22.70
4H	2H	18.61	19.98	19.01	20.32	20.70	19.01	20.37	19.41	20.72	21.10
	3H	20.38	21.52	20.79	21.92	22.32	20.68	21.82	21.09	22.21	22.61
	4H	21.03	22.06	21.46	22.47	22.91	21.27	22.30	21.70	22.71	23.15
	6H	21.47	22.37	21.93	22.81	23.27	21.66	22.56	22.12	23.00	23.46
	8H	21.58	22.42	22.04	22.86	23.33	21.76	22.60	22.23	23.04	23.51
	12H	21.64	22.39	22.12	22.87	23.34	21.82	22.58	22.30	23.05	23.52
8H	4H	21.31	22.15	21.77	22.59	23.06	21.53	22.36	21.99	22.81	23.27
	6H	21.85	22.54	22.34	23.03	23.51	22.01	22.70	22.50	23.19	23.67
	8H	22.01	22.63	22.52	23.14	23.63	22.15	22.78	22.66	23.28	23.77
	12H	22.11	22.66	22.62	23.15	23.72	22.25	22.81	22.76	23.30	23.86
12H	4H	21.33	22.08	21.81	22.55	23.02	21.54	22.29	22.02	22.77	23.24
	6H	21.88	22.50	22.39	23.01	23.50	22.04	22.66	22.55	23.17	23.65
	8H	22.08	22.63	22.59	23.13	23.69	22.23	22.78	22.73	23.27	23.83