

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: P1439641

Luminaire Tested: S122DR-H290D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439641  
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-H290D940-X4F0-XX-UDD-FLB-W  
Description: DEFINE 2, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

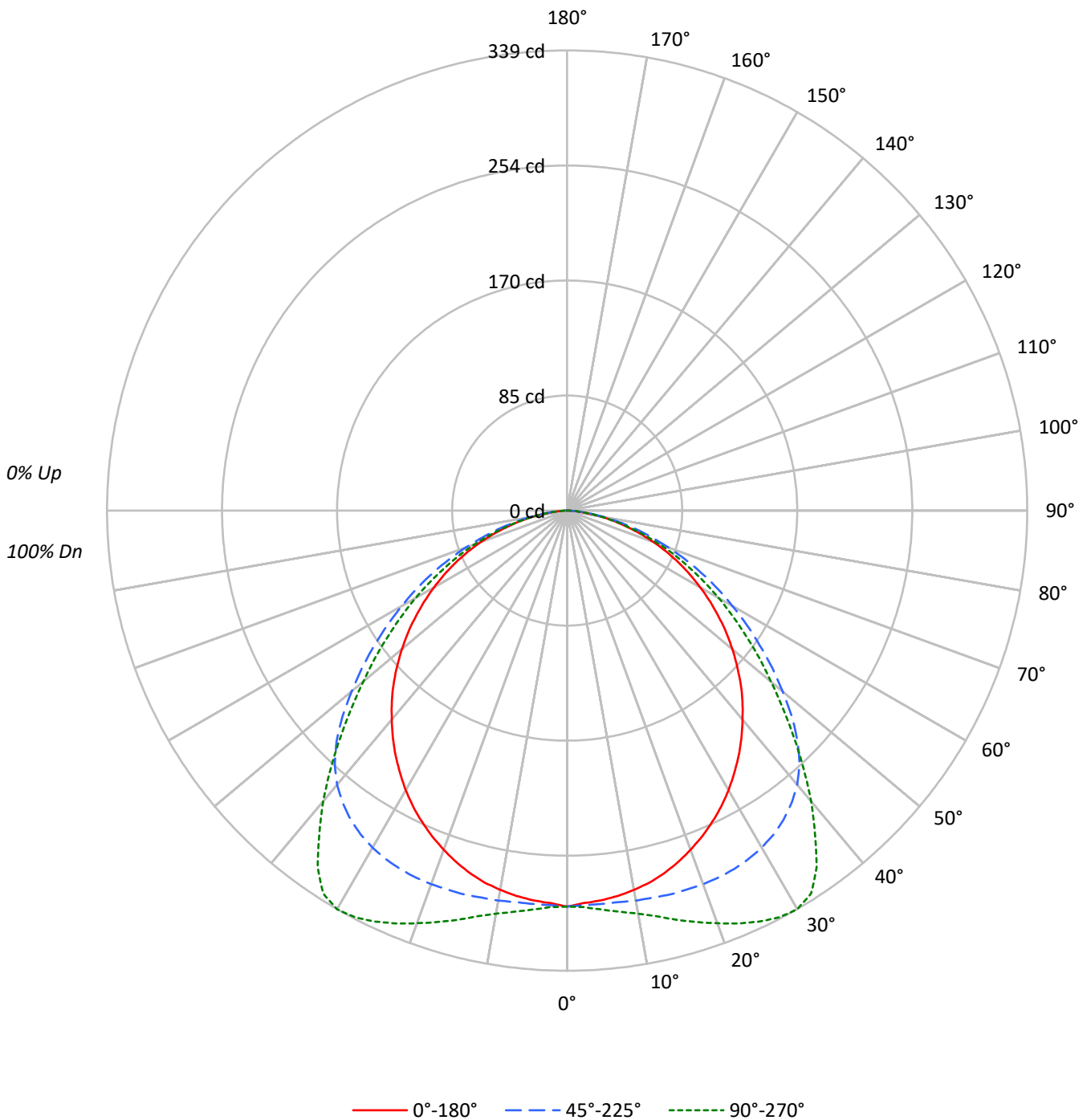
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 897.0 lumens  
Efficiency: N/A  
Efficacy: 76.7 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 (A<sub>in</sub>): 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	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°	5527	5527	5527
5°	5481	5532	5612
10°	5458	5612	5800
15°	5423	5743	6122
20°	5361	5903	6522
25°	5289	6089	6984
30°	5202	6272	7418
35°	5098	6430	7413
40°	4971	6519	6913
45°	4847	6433	6331
50°	4683	6104	5780
55°	4499	5724	5311
60°	4297	5331	4888
65°	4062	4913	4456
70°	3739	4393	3994
75°	3301	3806	3440
80°	2728	3022	2728
85°	1804	1978	1891

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 6484 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	27.9	3.1
10°-20°	83.3	9.3
20°-30°	135.2	15.1
30°-40°	171.0	19.1
40°-50°	171.3	19.1
50°-60°	143.5	16.0
60°-70°	101.1	11.3
70°-80°	52.2	5.8
80°-90°	11.6	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°	246.4	27.5
0°-40°	417.4	46.5
0°-60°	732.2	81.6
0°-90°	897.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	897.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	292	292	292	292	292	
5°	288	293	291	292	295	27
15°	276	284	293	305	312	78
25°	253	267	291	320	334	117
35°	220	238	278	314	320	138
45°	181	200	240	242	236	139
55°	136	153	173	166	161	122
65°	91	101	110	103	99	90
75°	45	50	52	48	47	48
85°	8	9	9	9	9	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	291.7	291.7	291.7	291.7	291.7
2.5°	289.4	293.9	290.9	291.3	292.4
5°	288.2	293.2	290.9	292.4	295.1
7.5°	286.3	291.7	290.9	293.9	298.1
10°	283.7	289.8	291.7	297.0	301.5
12.5°	280.7	287.1	292.0	300.4	306.1
15°	276.5	284.5	292.8	304.6	312.1
17.5°	271.6	281.0	292.8	309.1	317.8
20°	265.9	276.9	292.8	312.9	323.5
22.5°	259.8	271.9	292.4	316.3	329.2
25°	253.0	266.6	291.3	319.7	334.1
27.5°	245.8	260.6	289.4	322.4	337.9
30°	237.8	253.7	286.7	323.5	339.1
32.5°	229.1	246.5	282.9	321.2	334.5
35°	220.4	238.2	278.0	314.0	320.5
37.5°	210.9	229.5	271.6	300.0	300.0
40°	201.0	220.0	263.6	280.7	279.5
42.5°	191.2	210.1	253.4	261.7	257.9
45°	180.9	199.9	240.1	242.0	236.3
47.5°	169.9	188.5	224.5	221.9	215.4
50°	158.9	177.1	207.1	202.5	196.1
52.5°	147.9	165.4	190.4	183.9	178.3
55°	136.2	152.8	173.3	166.1	160.8
57.5°	124.8	140.3	157.0	149.1	144.5
60°	113.4	127.4	140.7	133.1	129.0
62.5°	102.0	114.2	125.2	117.6	113.8
65°	90.6	100.9	109.6	102.8	99.4
67.5°	78.9	88.0	94.1	88.0	85.7
70°	67.5	74.7	79.3	74.0	72.1
72.5°	56.1	62.2	65.2	61.1	59.2
75°	45.1	49.7	52.0	48.2	47.0
77.5°	34.5	37.9	39.1	36.4	34.9
80°	25.0	26.9	27.7	25.8	25.0
82.5°	15.5	17.1	17.8	16.3	15.9
85°	8.3	9.1	9.1	9.1	8.7
87.5°	3.0	3.8	3.8	3.8	3.4
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	17.42	19.04	17.79	19.35	19.66	17.94	19.55	18.30	19.87	20.18
	3H	18.99	20.45	19.37	20.77	21.13	19.41	20.86	19.78	21.19	21.55
	4H	19.53	20.90	19.93	21.24	21.62	19.90	21.27	20.30	21.61	21.99
	6H	19.87	21.14	20.28	21.50	21.89	20.20	21.46	20.61	21.83	22.22
	8H	19.95	21.16	20.38	21.55	21.95	20.27	21.48	20.70	21.87	22.27
	12H	19.99	21.15	20.42	21.53	21.96	20.31	21.46	20.74	21.84	22.27
4H	2H	18.18	19.54	18.58	19.89	20.27	18.58	19.94	18.98	20.29	20.67
	3H	19.95	21.09	20.36	21.49	21.89	20.24	21.38	20.65	21.78	22.18
	4H	20.60	21.62	21.03	22.04	22.47	20.84	21.87	21.27	22.28	22.72
	6H	21.04	21.93	21.49	22.38	22.83	21.23	22.13	21.69	22.57	23.03
	8H	21.15	21.99	21.61	22.43	22.89	21.33	22.17	21.80	22.61	23.08
	12H	21.21	21.96	21.69	22.44	22.91	21.39	22.14	21.87	22.62	23.09
8H	4H	20.88	21.72	21.34	22.16	22.62	21.10	21.93	21.56	22.38	22.84
	6H	21.42	22.11	21.91	22.60	23.08	21.58	22.27	22.07	22.76	23.24
	8H	21.58	22.20	22.09	22.71	23.19	21.72	22.35	22.23	22.85	23.34
	12H	21.68	22.23	22.19	22.72	23.28	21.82	22.37	22.33	22.87	23.43
12H	4H	20.89	21.65	21.38	22.12	22.59	21.11	21.86	21.59	22.34	22.81
	6H	21.45	22.07	21.96	22.58	23.06	21.61	22.23	22.12	22.74	23.22
	8H	21.65	22.20	22.16	22.69	23.25	21.79	22.35	22.30	22.84	23.40