

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: P1439818

Luminaire Tested: S123DR-S290D927-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439818
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DR-S290D927-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

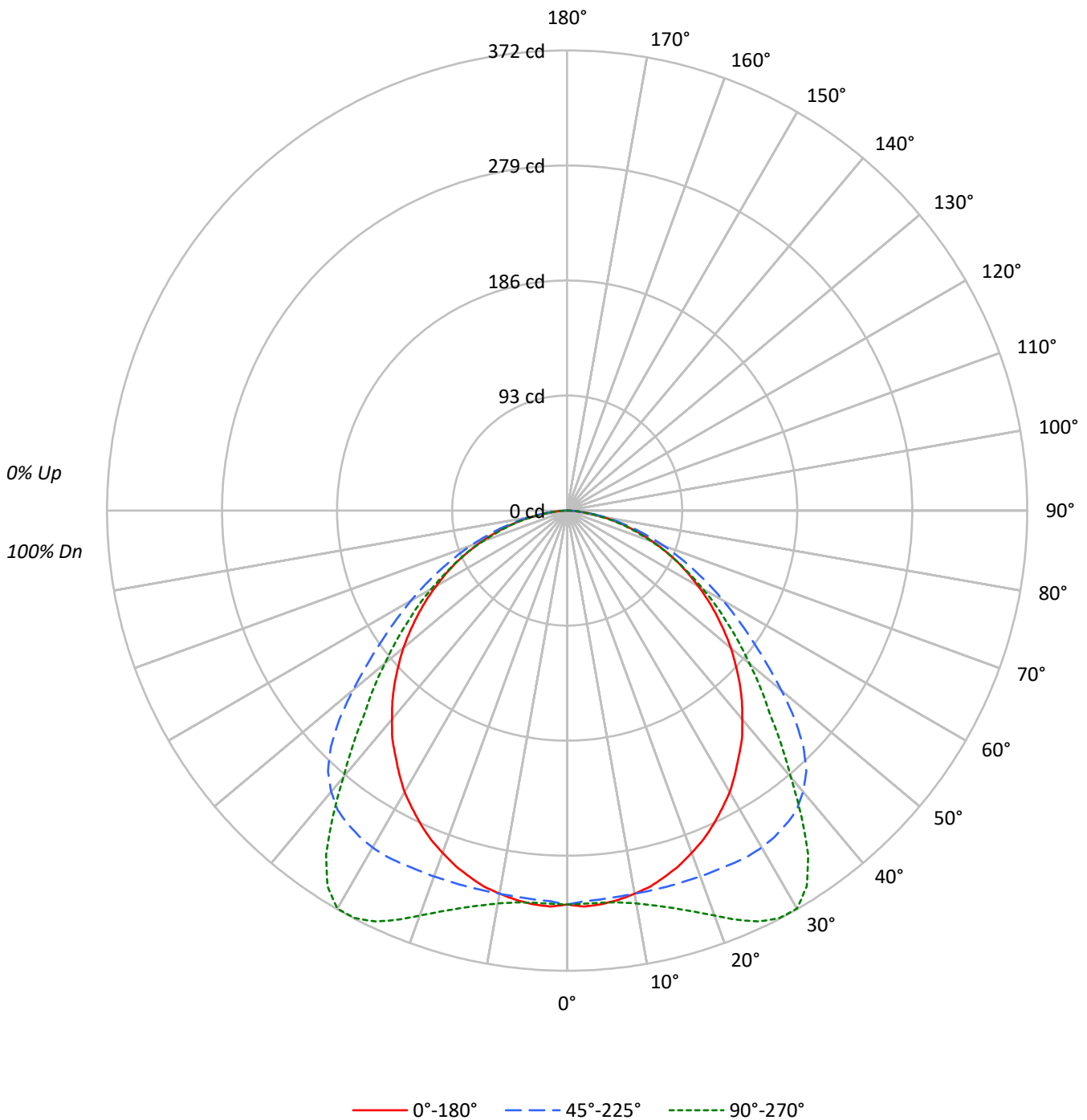
Lumens per Lamp: N/A
Luminaire Lumens: 963.1 lumens
Efficiency: N/A
Efficacy: 76.4 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3839	3839	3839
5°	3866	3818	3850
10°	3850	3850	3947
15°	3822	3925	4151
20°	3777	4039	4470
25°	3723	4192	4875
30°	3659	4378	5172
35°	3562	4551	5001
40°	3467	4670	4426
45°	3364	4604	3942
50°	3243	4237	3607
55°	3100	3834	3315
60°	2954	3511	3050
65°	2810	3212	2819
70°	2601	2915	2552
75°	2348	2595	2287
80°	1965	2173	1875
85°	1508	1591	1411

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 4604 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.3	3.1
10°-20°	90.1	9.4
20°-30°	147.7	15.3
30°-40°	186.8	19.4
40°-50°	182.5	18.9
50°-60°	149.9	15.6
60°-70°	105.8	11.0
70°-80°	56.4	5.9
80°-90°	13.7	1.4
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°	268.1	27.8
0°-40°	454.9	47.2
0°-60°	787.3	81.7
0°-90°	963.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	963.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	318	318	318	318	318	
5°	319	318	316	319	318	30
15°	306	308	314	329	333	86
25°	280	288	315	353	366	129
35°	242	259	309	345	340	152
45°	197	220	270	244	231	152
55°	148	170	182	164	158	132
65°	98	113	113	103	99	97
75°	50	57	56	50	49	53
85°	11	12	12	10	10	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	318.4	318.4	318.4	318.4	318.4
2.5°	320.4	319.4	316.1	319.1	318.1
5°	319.4	318.1	315.5	318.8	318.1
7.5°	317.4	316.8	314.8	319.8	319.4
10°	314.5	314.2	314.5	321.7	322.4
12.5°	311.2	311.5	314.5	324.7	327.0
15°	306.2	307.9	314.5	328.6	332.6
17.5°	301.0	303.6	314.5	333.9	339.8
20°	294.4	299.0	314.8	339.5	348.4
22.5°	287.8	293.4	314.8	347.1	358.0
25°	279.9	288.1	315.1	353.3	366.5
27.5°	271.3	281.2	315.5	358.3	371.5
30°	262.8	274.6	314.5	360.3	371.5
32.5°	252.6	267.1	312.5	357.0	360.3
35°	242.0	258.8	309.2	345.1	339.8
37.5°	232.2	249.9	304.9	323.4	310.9
40°	220.3	240.4	296.7	295.7	281.2
42.5°	209.1	230.2	286.2	267.7	255.9
45°	197.3	219.6	270.0	243.7	231.2
47.5°	184.7	208.1	249.6	221.0	212.1
50°	172.9	196.3	225.9	200.2	192.3
52.5°	160.0	183.7	203.2	181.8	174.9
55°	147.5	169.6	182.4	164.0	157.7
57.5°	135.0	155.8	163.3	147.2	142.3
60°	122.5	141.3	145.6	131.7	126.5
62.5°	110.3	127.8	129.1	116.9	112.3
65°	98.5	112.6	112.6	102.7	98.8
67.5°	85.9	98.1	97.5	88.3	85.9
70°	73.8	84.0	82.7	75.1	72.4
72.5°	62.2	69.8	68.8	62.9	59.9
75°	50.4	56.6	55.7	50.4	49.1
77.5°	39.2	43.5	42.5	38.9	37.9
80°	28.3	31.6	31.3	28.6	27.0
82.5°	19.1	20.7	20.4	18.8	17.8
85°	10.9	11.9	11.5	10.5	10.2
87.5°	4.3	4.9	5.3	4.9	4.6
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	16.31	17.92	16.68	18.23	18.55	16.04	17.64	16.40	17.96	18.27
	3H	17.88	19.33	18.26	19.66	20.02	17.55	19.00	17.93	19.33	19.69
	4H	18.43	19.79	18.83	20.14	20.52	18.09	19.45	18.49	19.80	20.17
	6H	18.80	20.06	19.21	20.42	20.81	18.45	19.71	18.86	20.07	20.46
	8H	18.90	20.10	19.32	20.49	20.89	18.54	19.74	18.97	20.13	20.53
	12H	18.95	20.10	19.38	20.48	20.91	18.59	19.74	19.02	20.13	20.55
4H	2H	16.95	18.31	17.35	18.66	19.04	16.74	18.10	17.14	18.45	18.82
	3H	18.76	19.89	19.17	20.29	20.69	18.45	19.59	18.86	19.99	20.39
	4H	19.45	20.47	19.88	20.88	21.32	19.09	20.11	19.52	20.53	20.97
	6H	19.93	20.82	20.38	21.26	21.72	19.55	20.44	20.01	20.88	21.34
	8H	20.06	20.90	20.52	21.34	21.80	19.68	20.51	20.14	20.95	21.42
	12H	20.15	20.89	20.63	21.37	21.84	19.76	20.51	20.24	20.98	21.45
8H	4H	19.71	20.55	20.17	20.99	21.45	19.40	20.23	19.86	20.68	21.14
	6H	20.30	20.99	20.80	21.48	21.96	19.96	20.65	20.45	21.14	21.62
	8H	20.50	21.12	21.01	21.62	22.11	20.14	20.76	20.65	21.27	21.75
	12H	20.64	21.19	21.14	21.68	22.24	20.27	20.82	20.78	21.31	21.87
12H	4H	19.73	20.48	20.21	20.95	21.42	19.43	20.17	19.91	20.65	21.12
	6H	20.33	20.96	20.84	21.46	21.95	20.00	20.63	20.51	21.13	21.62
	8H	20.58	21.13	21.08	21.62	22.18	20.23	20.78	20.74	21.27	21.83