

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: P1439953

Luminaire Tested: S124DR-S290D927-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439953
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DR-S290D927-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

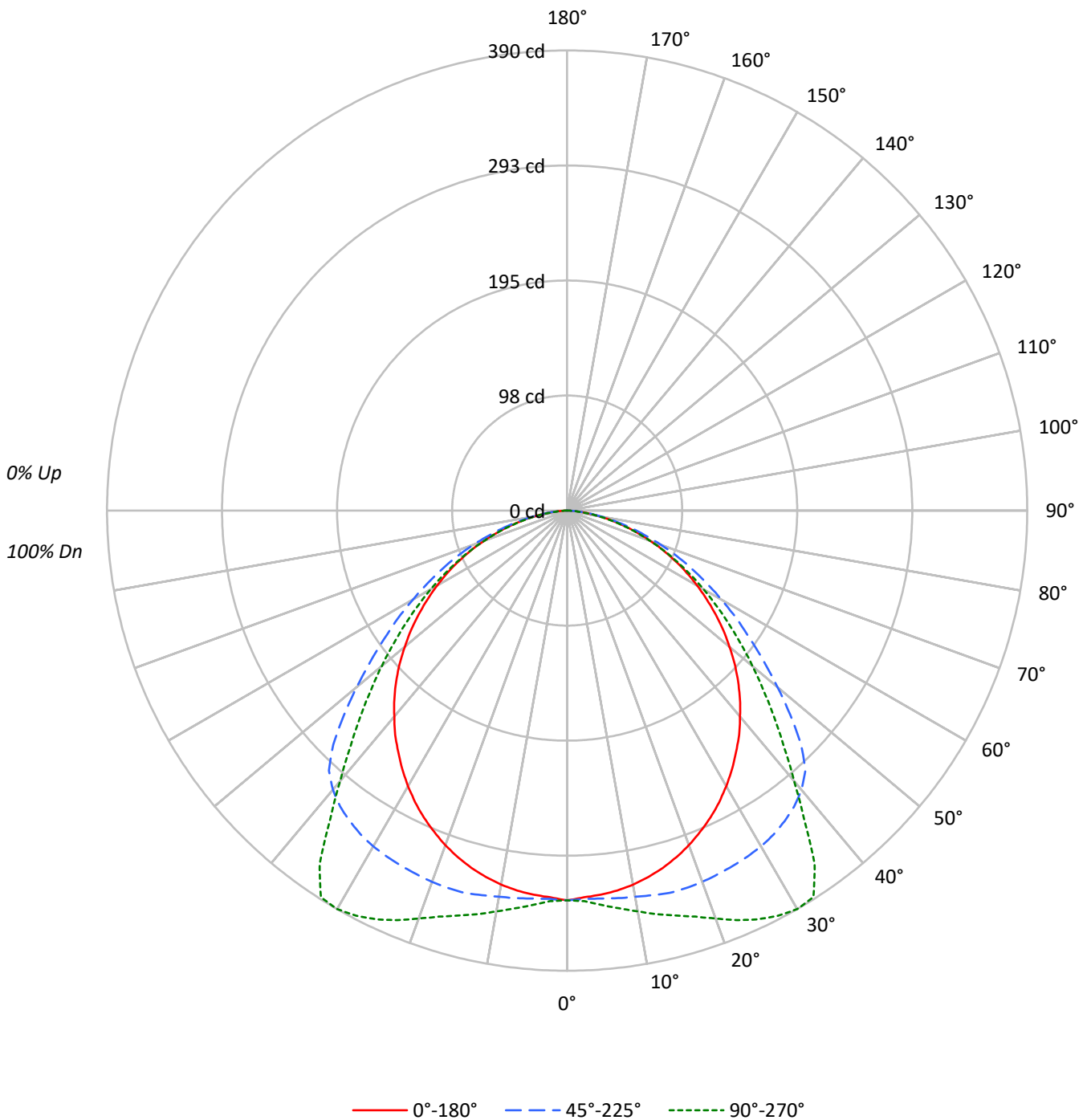
Lumens per Lamp: N/A
Luminaire Lumens: 1003.9 lumens
Efficiency: N/A
Efficacy: 79.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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

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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	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	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°	2920	2920	2920
5°	2900	2929	2978
10°	2890	2983	3096
15°	2870	3071	3252
20°	2840	3151	3461
25°	2802	3242	3729
30°	2753	3356	3982
35°	2694	3468	3947
40°	2630	3565	3453
45°	2562	3506	3105
50°	2470	3202	2822
55°	2369	2913	2579
60°	2253	2672	2362
65°	2115	2435	2157
70°	1936	2179	1928
75°	1705	1872	1670
80°	1405	1502	1354
85°	984	1014	923

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3506 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.7	3.2
10°-20°	95.0	9.5
20°-30°	154.6	15.4
30°-40°	196.3	19.6
40°-50°	191.3	19.1
50°-60°	156.9	15.6
60°-70°	109.4	10.9
70°-80°	56.2	5.6
80°-90°	12.5	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°	281.3	28.0
0°-40°	477.6	47.6
0°-60°	825.8	82.3
0°-90°	1003.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1003.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	330	330	330	330	330	
5°	327	332	330	332	336	31
15°	314	323	336	349	355	88
25°	287	306	332	367	382	132
35°	250	274	321	368	366	156
45°	205	230	280	257	248	158
55°	154	177	189	173	167	137
65°	101	116	116	107	103	100
75°	50	55	55	51	49	53
85°	10	10	10	9	9	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°	328.1	332.3	329.4	330.7	331.3
5°	326.8	331.6	330.0	332.3	335.5
7.5°	324.8	330.3	331.3	335.8	340.1
10°	321.9	328.4	332.3	340.1	344.9
12.5°	318.0	326.1	333.9	344.6	350.4
15°	313.5	323.2	335.5	348.8	355.3
17.5°	308.0	319.6	335.5	352.0	360.8
20°	301.8	315.4	334.9	356.3	367.9
22.5°	294.7	310.9	333.6	361.1	375.7
25°	287.2	305.7	332.3	366.6	382.2
27.5°	278.8	299.5	330.7	370.8	387.1
30°	269.7	292.1	328.7	372.8	390.0
32.5°	260.0	283.3	325.5	372.8	388.4
35°	249.6	273.9	321.3	367.9	365.7
37.5°	239.6	263.9	316.1	344.3	330.0
40°	227.9	253.2	308.9	310.9	299.2
42.5°	216.9	241.8	298.9	282.7	272.3
45°	204.9	230.2	280.4	257.1	248.3
47.5°	192.6	217.5	256.4	234.1	225.9
50°	179.6	204.9	232.8	212.3	205.2
52.5°	166.9	191.3	210.1	192.2	185.4
55°	153.7	177.3	189.0	173.1	167.3
57.5°	140.4	163.1	169.9	155.3	149.8
60°	127.4	147.8	151.1	138.4	133.6
62.5°	114.4	131.9	133.2	122.2	118.0
65°	101.1	115.7	116.4	107.0	103.1
67.5°	88.2	100.2	100.2	92.1	88.8
70°	74.9	84.9	84.3	77.8	74.6
72.5°	62.2	69.4	68.7	63.9	61.6
75°	49.9	55.4	54.8	50.9	48.9
77.5°	38.3	42.1	41.5	38.9	37.3
80°	27.6	29.8	29.5	27.6	26.6
82.5°	18.2	19.5	18.8	17.5	16.9
85°	9.7	10.0	10.0	9.4	9.1
87.5°	3.6	3.6	3.6	3.6	3.2
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	15.41	17.01	15.77	17.32	17.64	15.19	16.79	15.56	17.11	17.42
	3H	16.91	18.35	17.29	18.68	19.04	16.66	18.10	17.04	18.43	18.79
	4H	17.41	18.77	17.81	19.12	19.49	17.16	18.51	17.56	18.86	19.24
	6H	17.74	18.99	18.15	19.35	19.74	17.48	18.73	17.89	19.09	19.48
	8H	17.82	19.01	18.24	19.40	19.80	17.55	18.75	17.98	19.14	19.54
	12H	17.86	19.00	18.29	19.38	19.81	17.59	18.73	18.02	19.11	19.54
4H	2H	16.03	17.38	16.43	17.73	18.11	15.86	17.21	16.26	17.56	17.94
	3H	17.76	18.89	18.17	19.29	19.69	17.53	18.66	17.94	19.05	19.45
	4H	18.39	19.40	18.82	19.82	20.26	18.13	19.14	18.56	19.56	19.99
	6H	18.82	19.70	19.27	20.14	20.60	18.54	19.42	18.99	19.87	20.32
	8H	18.93	19.76	19.39	20.20	20.67	18.64	19.47	19.10	19.91	20.38
	12H	18.99	19.74	19.47	20.21	20.68	18.70	19.44	19.18	19.92	20.39
8H	4H	18.63	19.46	19.09	19.90	20.37	18.40	19.23	18.86	19.67	20.13
	6H	19.15	19.84	19.65	20.33	20.80	18.90	19.58	19.39	20.07	20.55
	8H	19.32	19.93	19.83	20.44	20.93	19.05	19.66	19.56	20.17	20.66
	12H	19.43	19.97	19.94	20.46	21.02	19.15	19.69	19.65	20.18	20.74
12H	4H	18.64	19.38	19.12	19.86	20.33	18.42	19.16	18.90	19.63	20.10
	6H	19.17	19.79	19.69	20.30	20.79	18.93	19.55	19.44	20.05	20.54
	8H	19.39	19.93	19.89	20.42	20.98	19.12	19.67	19.63	20.16	20.72