

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: P1439950

Luminaire Tested: S124DR-S290D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439950  
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-S290D835-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

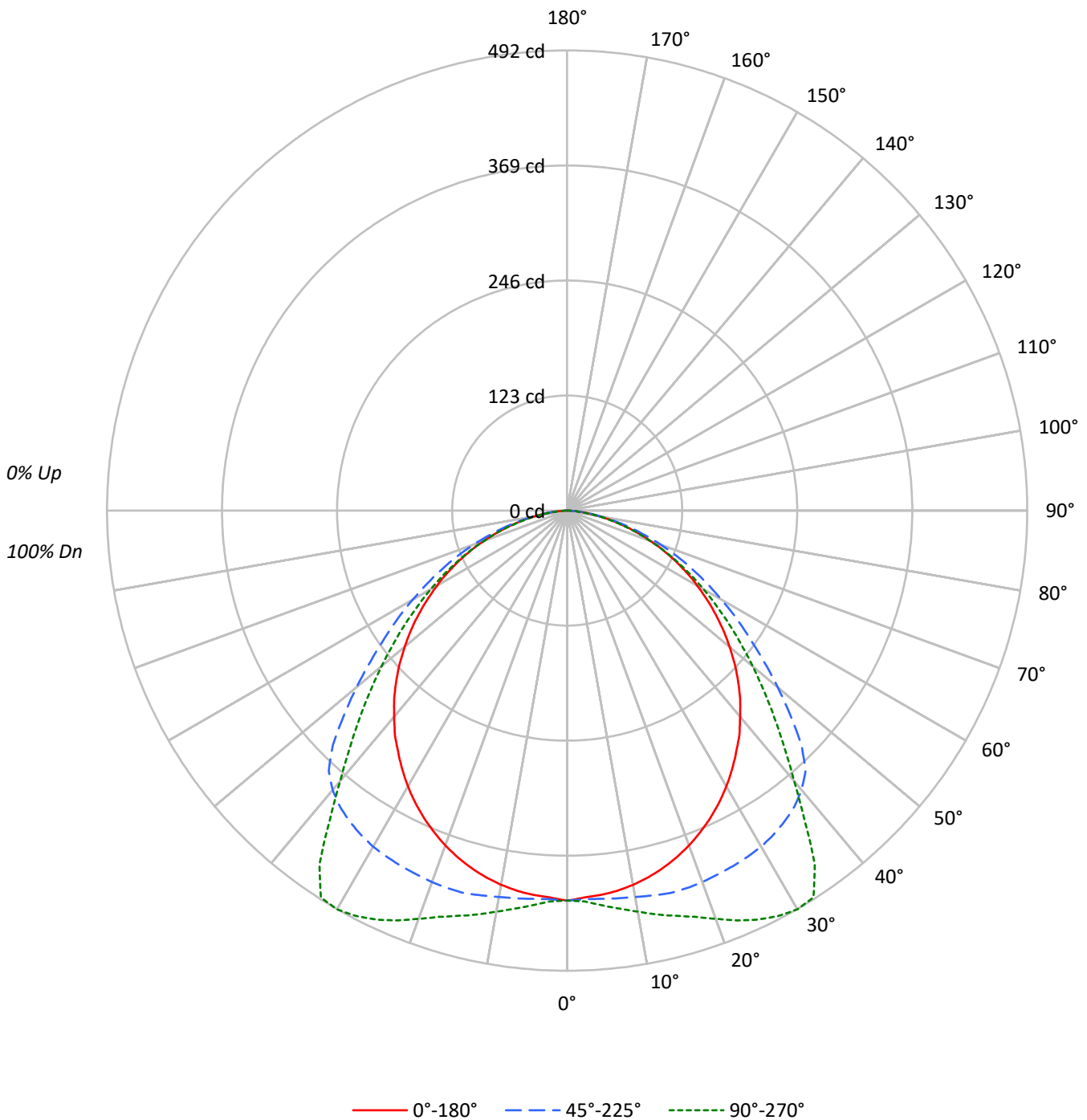
Lumens per Lamp: N/A  
Luminaire Lumens: 1267.3 lumens  
Efficiency: N/A  
Efficacy: 100.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct

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°	3687	3687	3687
5°	3661	3697	3759
10°	3648	3765	3909
15°	3622	3876	4105
20°	3585	3977	4370
25°	3537	4091	4707
30°	3476	4236	5026
35°	3401	4377	4982
40°	3321	4501	4359
45°	3233	4426	3920
50°	3118	4041	3562
55°	2990	3678	3256
60°	2843	3372	2981
65°	2672	3073	2722
70°	2443	2750	2433
75°	2152	2364	2111
80°	1772	1894	1711
85°	1248	1288	1167

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 4426 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.0	3.2
10°-20°	119.9	9.5
20°-30°	195.2	15.4
30°-40°	247.9	19.6
40°-50°	241.5	19.1
50°-60°	198.0	15.6
60°-70°	138.2	10.9
70°-80°	70.9	5.6
80°-90°	15.7	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°	355.1	28.0
0°-40°	602.9	47.6
0°-60°	1042.5	82.3
0°-90°	1267.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1267.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	417	417	417	417	417	
5°	412	419	417	419	424	39
15°	396	408	424	440	448	112
25°	363	386	419	463	482	167
35°	315	346	406	464	462	197
45°	259	290	354	324	314	199
55°	194	224	239	218	211	173
65°	128	146	147	135	130	126
75°	63	70	69	64	62	67
85°	12	13	13	12	12	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	417.0	417.0	417.0	417.0	417.0
2.5°	414.1	419.4	415.8	417.4	418.2
5°	412.5	418.6	416.6	419.4	423.5
7.5°	410.0	417.0	418.2	423.9	429.3
10°	406.3	414.5	419.4	429.3	435.4
12.5°	401.4	411.7	421.5	435.0	442.4
15°	395.7	408.0	423.5	440.3	448.5
17.5°	388.8	403.5	423.5	444.4	455.5
20°	381.0	398.2	422.7	449.7	464.5
22.5°	372.0	392.4	421.1	455.9	474.3
25°	362.6	385.9	419.4	462.8	482.5
27.5°	351.9	378.1	417.4	468.1	488.6
30°	340.5	368.7	414.9	470.6	492.3
32.5°	328.2	357.7	410.8	470.6	490.2
35°	315.1	345.8	405.5	464.5	461.6
37.5°	302.4	333.1	399.0	434.6	416.6
40°	287.7	319.6	390.0	392.4	377.7
42.5°	273.8	305.3	377.3	356.8	343.7
45°	258.6	290.5	354.0	324.5	313.5
47.5°	243.1	274.6	323.7	295.5	285.2
50°	226.7	258.6	293.8	268.0	259.0
52.5°	210.7	241.4	265.2	242.7	234.1
55°	194.0	223.8	238.6	218.5	211.2
57.5°	177.2	205.8	214.4	196.0	189.1
60°	160.8	186.6	190.7	174.7	168.6
62.5°	144.5	166.5	168.2	154.3	149.0
65°	127.7	146.1	146.9	135.0	130.1
67.5°	111.3	126.4	126.4	116.2	112.1
70°	94.5	107.2	106.4	98.2	94.1
72.5°	78.6	87.6	86.8	80.6	77.8
75°	63.0	70.0	69.2	64.2	61.8
77.5°	48.3	53.2	52.4	49.1	47.1
80°	34.8	37.6	37.2	34.8	33.6
82.5°	22.9	24.6	23.7	22.1	21.3
85°	12.3	12.7	12.7	11.9	11.5
87.5°	4.5	4.5	4.5	4.5	4.1
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	16.22	17.82	16.58	18.13	18.44	16.00	17.60	16.37	17.91	18.23
	3H	17.72	19.16	18.10	19.49	19.85	17.47	18.91	17.85	19.24	19.60
	4H	18.22	19.58	18.62	19.92	20.30	17.97	19.32	18.37	19.67	20.05
	6H	18.54	19.80	18.95	20.16	20.55	18.29	19.54	18.70	19.90	20.29
	8H	18.63	19.82	19.05	20.21	20.61	18.36	19.56	18.79	19.94	20.34
	12H	18.67	19.81	19.10	20.19	20.62	18.40	19.54	18.83	19.92	20.35
4H	2H	16.84	18.19	17.24	18.54	18.92	16.67	18.02	17.07	18.37	18.75
	3H	18.57	19.70	18.98	20.09	20.49	18.34	19.46	18.75	19.86	20.26
	4H	19.20	20.21	19.63	20.63	21.06	18.93	19.95	19.37	20.36	20.80
	6H	19.62	20.51	20.08	20.95	21.41	19.35	20.23	19.80	20.67	21.13
	8H	19.74	20.56	20.20	21.01	21.47	19.45	20.28	19.91	20.72	21.19
	12H	19.80	20.54	20.28	21.02	21.49	19.51	20.25	19.99	20.73	21.20
8H	4H	19.44	20.27	19.90	20.71	21.18	19.21	20.03	19.67	20.48	20.94
	6H	19.96	20.65	20.46	21.14	21.61	19.71	20.39	20.20	20.88	21.36
	8H	20.13	20.74	20.64	21.25	21.74	19.86	20.47	20.37	20.98	21.47
	12H	20.24	20.78	20.74	21.27	21.83	19.96	20.50	20.46	20.99	21.55
12H	4H	19.45	20.19	19.93	20.67	21.14	19.22	19.97	19.70	20.44	20.91
	6H	19.98	20.60	20.49	21.11	21.59	19.74	20.35	20.25	20.86	21.35
	8H	20.19	20.74	20.70	21.23	21.79	19.93	20.47	20.44	20.97	21.53