

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: P1439951

Luminaire Tested: S124DR-S290D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439951
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-S290D840-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

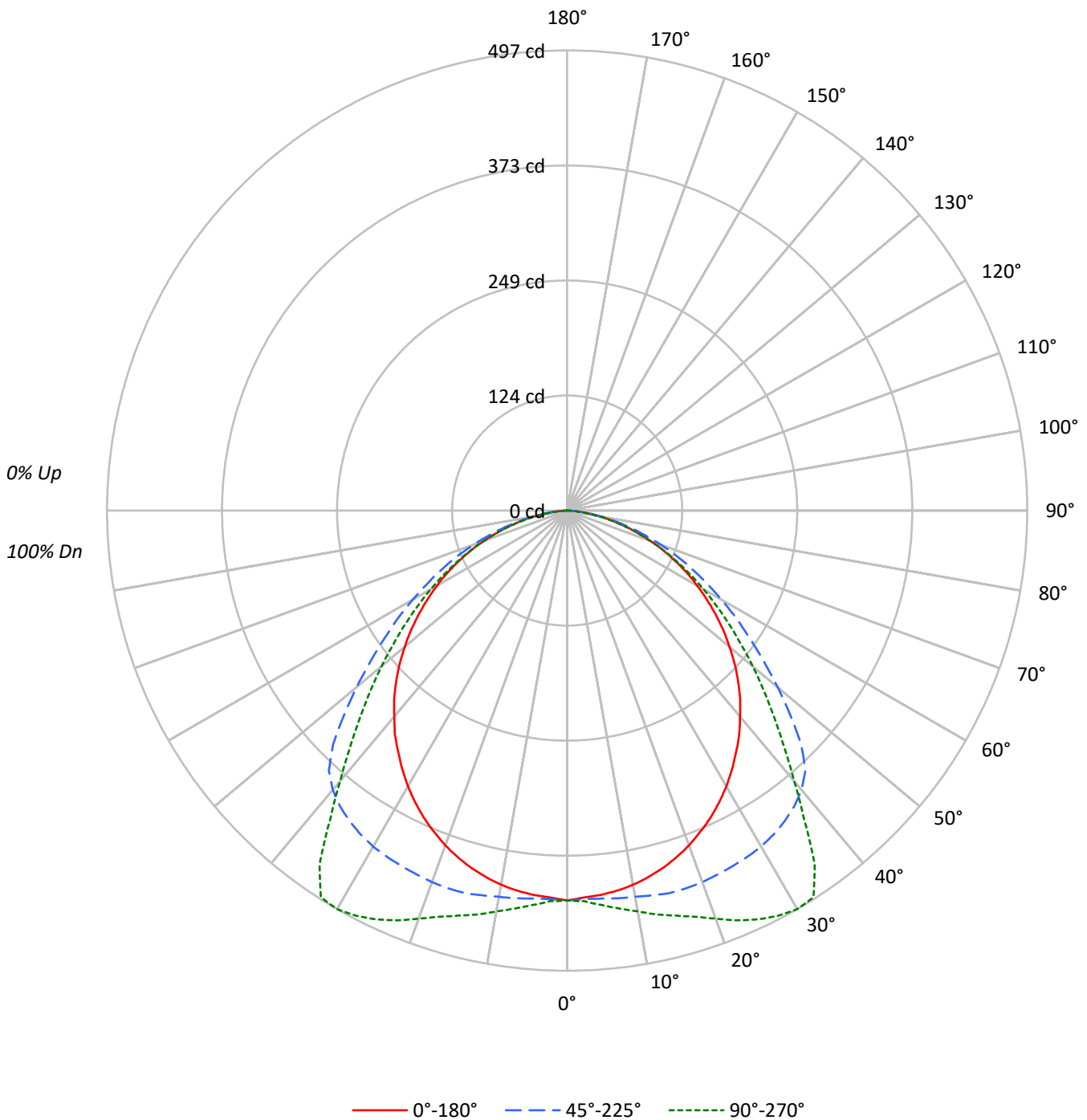
Lumens per Lamp: N/A
Luminaire Lumens: 1279.7 lumens
Efficiency: N/A
Efficacy: 101.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	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	103	99	95	98	95	92	94	92	90	91	89	87	85					85			
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71					71			
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	67	63	60					60			
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52					52			
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45					45			
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39					39			
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35					35			
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3723	3723	3723
5°	3697	3734	3796
10°	3684	3803	3948
15°	3658	3915	4146
20°	3620	4017	4413
25°	3571	4132	4753
30°	3510	4278	5075
35°	3434	4420	5031
40°	3353	4545	4402
45°	3266	4470	3957
50°	3148	4081	3598
55°	3020	3713	3286
60°	2872	3406	3011
65°	2697	3105	2749
70°	2469	2776	2456
75°	2173	2384	2132
80°	1787	1914	1726
85°	1258	1298	1177

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 4470 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	3.2
10°-20°	121.1	9.5
20°-30°	197.1	15.4
30°-40°	250.3	19.6
40°-50°	243.9	19.1
50°-60°	200.0	15.6
60°-70°	139.5	10.9
70°-80°	71.6	5.6
80°-90°	15.9	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°	358.6	28.0
0°-40°	608.9	47.6
0°-60°	1052.7	82.3
0°-90°	1279.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1279.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	421	421	421	421	421	
5°	417	423	421	424	428	40
15°	400	412	428	445	453	113
25°	366	390	424	467	487	169
35°	318	349	410	469	466	199
45°	261	293	358	328	316	201
55°	196	226	241	221	213	175
65°	129	148	148	136	131	128
75°	64	71	70	65	62	68
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°	421.1	421.1	421.1	421.1	421.1
2.5°	418.2	423.6	419.9	421.5	422.3
5°	416.6	422.8	420.7	423.6	427.7
7.5°	414.1	421.1	422.3	428.1	433.5
10°	410.4	418.6	423.6	433.5	439.7
12.5°	405.4	415.7	425.6	439.3	446.7
15°	399.6	412.0	427.7	444.7	452.9
17.5°	392.6	407.5	427.7	448.8	459.9
20°	384.7	402.1	426.9	454.2	469.0
22.5°	375.6	396.3	425.2	460.4	479.0
25°	366.1	389.7	423.6	467.4	487.2
27.5°	355.4	381.8	421.5	472.8	493.4
30°	343.8	372.3	419.0	475.2	497.1
32.5°	331.4	361.2	414.9	475.2	495.1
35°	318.2	349.2	409.5	469.0	466.1
37.5°	305.4	336.4	402.9	438.9	420.7
40°	290.5	322.7	393.8	396.3	381.4
42.5°	276.5	308.3	381.0	360.4	347.1
45°	261.2	293.4	357.5	327.7	316.5
47.5°	245.5	277.3	326.9	298.4	288.0
50°	228.9	261.2	296.7	270.7	261.6
52.5°	212.8	243.8	267.8	245.1	236.4
55°	195.9	226.0	240.9	220.7	213.2
57.5°	178.9	207.9	216.5	197.9	190.9
60°	162.4	188.4	192.6	176.5	170.3
62.5°	145.9	168.2	169.8	155.8	150.4
65°	128.9	147.5	148.4	136.4	131.4
67.5°	112.4	127.7	127.7	117.4	113.2
70°	95.5	108.3	107.4	99.2	95.0
72.5°	79.3	88.4	87.6	81.4	78.5
75°	63.6	70.7	69.8	64.9	62.4
77.5°	48.8	53.7	52.9	49.6	47.5
80°	35.1	38.0	37.6	35.1	33.9
82.5°	23.1	24.8	24.0	22.3	21.5
85°	12.4	12.8	12.8	12.0	11.6
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	16.25	17.85	16.62	18.17	18.48	16.03	17.63	16.40	17.95	18.26
	3H	17.76	19.20	18.13	19.52	19.88	17.51	18.95	17.88	19.27	19.63
	4H	18.26	19.61	18.66	19.96	20.34	18.00	19.36	18.40	19.70	20.08
	6H	18.58	19.83	18.99	20.20	20.59	18.32	19.57	18.73	19.94	20.33
	8H	18.66	19.86	19.09	20.24	20.64	18.39	19.59	18.82	19.98	20.38
	12H	18.70	19.84	19.13	20.23	20.65	18.43	19.57	18.86	19.95	20.38
4H	2H	16.87	18.23	17.27	18.58	18.95	16.70	18.06	17.10	18.40	18.78
	3H	18.60	19.73	19.01	20.13	20.53	18.37	19.50	18.78	19.90	20.30
	4H	19.23	20.25	19.66	20.66	21.10	18.97	19.98	19.40	20.40	20.84
	6H	19.66	20.54	20.11	20.99	21.44	19.38	20.27	19.84	20.71	21.16
	8H	19.77	20.60	20.23	21.04	21.51	19.48	20.31	19.95	20.75	21.22
	12H	19.84	20.58	20.32	21.05	21.52	19.54	20.28	20.02	20.76	21.23
8H	4H	19.47	20.30	19.93	20.74	21.21	19.24	20.07	19.70	20.51	20.98
	6H	20.00	20.68	20.49	21.17	21.65	19.74	20.43	20.24	20.92	21.39
	8H	20.16	20.78	20.67	21.28	21.77	19.89	20.50	20.40	21.01	21.50
	12H	20.27	20.81	20.78	21.31	21.87	19.99	20.53	20.50	21.02	21.59
12H	4H	19.48	20.23	19.97	20.70	21.17	19.26	20.00	19.74	20.48	20.95
	6H	20.02	20.63	20.53	21.14	21.63	19.77	20.39	20.28	20.89	21.38
	8H	20.23	20.77	20.74	21.26	21.83	19.96	20.51	20.47	21.00	21.56