

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: P1439935

Luminaire Tested: S124DR-H865D927-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439935  
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-H865D927-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

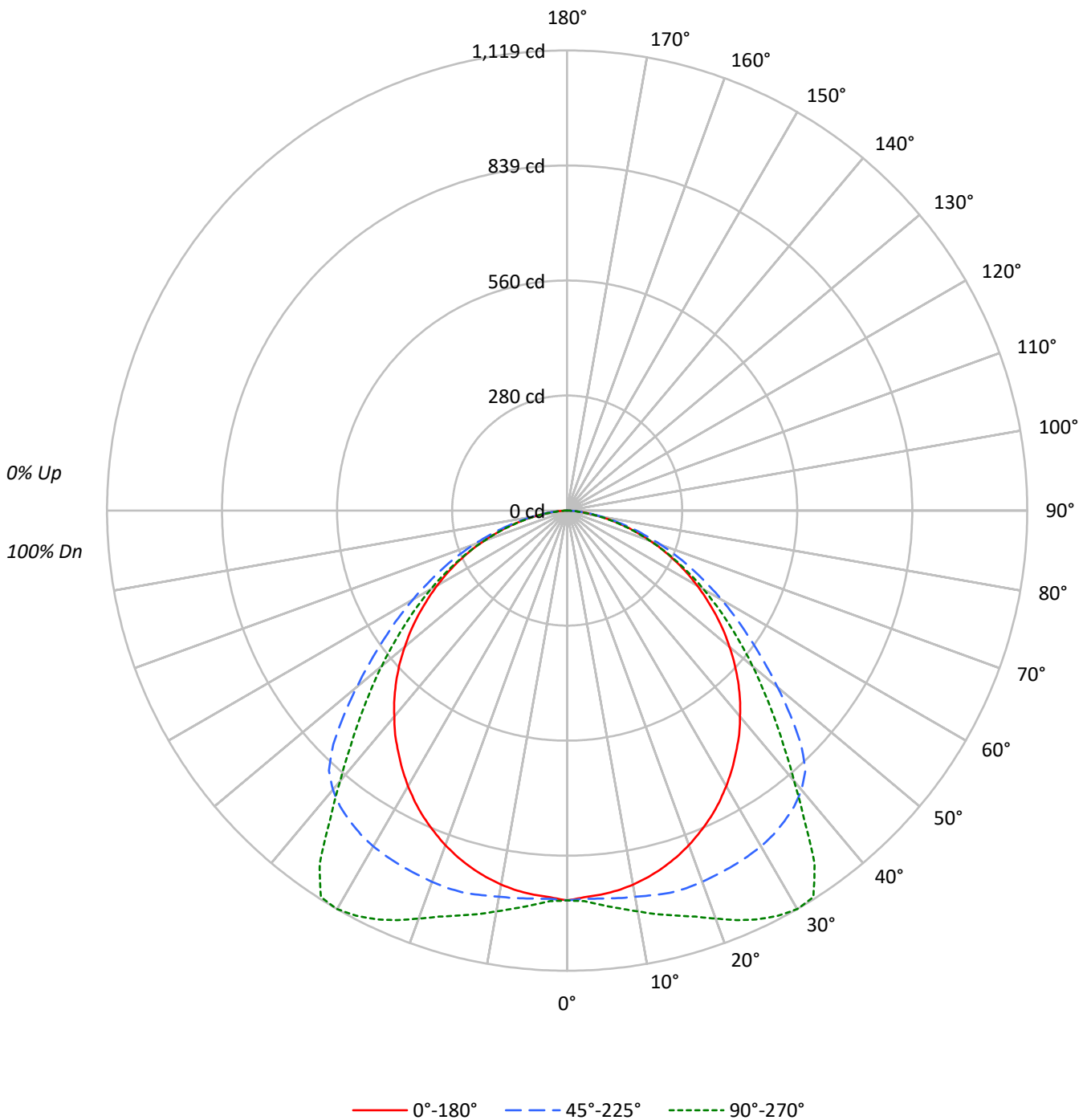
Lumens per Lamp: N/A  
Luminaire Lumens: 2880.4 lumens  
Efficiency: N/A  
Efficacy: 93.2 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 30.9  
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°	8380	8380	8380
5°	8320	8403	8544
10°	8292	8559	8884
15°	8232	8812	9331
20°	8147	9040	9933
25°	8039	9301	10698
30°	7900	9628	11423
35°	7730	9948	11324
40°	7547	10230	9908
45°	7350	10059	8909
50°	7088	9185	8099
55°	6796	8359	7397
60°	6463	7664	6776
65°	6071	6985	6188
70°	5555	6251	5529
75°	4892	5370	4796
80°	4027	4307	3885
85°	2830	2922	2638

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 10059 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.0	3.2
10°-20°	272.5	9.5
20°-30°	443.6	15.4
30°-40°	563.3	19.6
40°-50°	548.9	19.1
50°-60°	450.1	15.6
60°-70°	314.0	10.9
70°-80°	161.2	5.6
80°-90°	35.7	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°	807.1	28.0
0°-40°	1370.4	47.6
0°-60°	2369.5	82.3
0°-90°	2880.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2880.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	948	948	948	948	948	
5°	938	952	947	953	963	89
15°	899	927	963	1001	1019	254
25°	824	877	953	1052	1097	379
35°	716	786	922	1056	1049	448
45°	588	660	804	738	712	453
55°	441	509	542	497	480	394
65°	290	332	334	307	296	287
75°	143	159	157	146	140	152
85°	28	29	29	27	26	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	947.8	947.8	947.8	947.8	947.8
2.5°	941.3	953.4	945.0	948.7	950.6
5°	937.5	951.5	946.8	953.4	962.7
7.5°	932.0	947.8	950.6	963.6	975.7
10°	923.6	942.2	953.4	975.7	989.6
12.5°	912.4	935.7	958.0	988.7	1005.4
15°	899.4	927.3	962.7	1000.8	1019.4
17.5°	883.6	917.1	962.7	1010.1	1035.2
20°	865.9	905.0	960.8	1022.2	1055.7
22.5°	845.5	892.0	957.1	1036.1	1078.0
25°	824.1	877.1	953.4	1052.0	1096.6
27.5°	799.9	859.4	948.7	1064.0	1110.5
30°	773.8	838.0	943.1	1069.6	1118.9
32.5°	745.9	812.9	933.8	1069.6	1114.3
35°	716.2	785.9	921.7	1055.7	1049.2
37.5°	687.3	757.1	906.9	987.8	946.8
40°	653.9	726.4	886.4	892.0	858.5
42.5°	622.2	693.9	857.6	811.1	781.3
45°	587.8	660.4	804.5	737.6	712.5
47.5°	552.5	624.1	735.7	671.5	648.3
50°	515.3	587.8	667.8	609.2	588.8
52.5°	479.0	548.8	602.7	551.6	532.0
55°	440.9	508.8	542.3	496.7	479.9
57.5°	402.7	467.8	487.4	445.5	429.7
60°	365.5	424.1	433.4	397.2	383.2
62.5°	328.3	378.6	382.3	350.7	338.6
65°	290.2	332.0	333.9	306.9	295.8
67.5°	253.0	287.4	287.4	264.2	254.8
70°	214.9	243.7	241.8	223.2	213.9
72.5°	178.6	199.0	197.2	183.2	176.7
75°	143.2	159.0	157.2	146.0	140.4
77.5°	109.8	120.9	119.1	111.6	107.0
80°	79.1	85.6	84.6	79.1	76.3
82.5°	52.1	55.8	53.9	50.2	48.4
85°	27.9	28.8	28.8	27.0	26.0
87.5°	10.2	10.2	10.2	10.2	9.3
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	19.07	20.67	19.43	20.98	21.30	18.85	20.45	19.22	20.77	21.08
	3H	20.57	22.01	20.95	22.34	22.70	20.33	21.76	20.70	22.09	22.45
	4H	21.08	22.43	21.47	22.78	23.15	20.82	22.17	21.22	22.52	22.90
	6H	21.40	22.65	21.81	23.01	23.41	21.14	22.39	21.55	22.75	23.15
	8H	21.48	22.67	21.90	23.06	23.46	21.21	22.41	21.64	22.80	23.20
	12H	21.52	22.66	21.95	23.04	23.47	21.25	22.39	21.68	22.77	23.20
4H	2H	19.69	21.04	20.09	21.39	21.77	19.52	20.88	19.92	21.22	21.60
	3H	21.42	22.55	21.83	22.95	23.35	21.19	22.32	21.60	22.72	23.12
	4H	22.05	23.07	22.48	23.48	23.92	21.79	22.80	22.22	23.22	23.65
	6H	22.48	23.36	22.93	23.80	24.26	22.20	23.09	22.65	23.53	23.98
	8H	22.59	23.42	23.05	23.86	24.33	22.30	23.13	22.76	23.57	24.04
	12H	22.65	23.40	23.14	23.87	24.34	22.36	23.10	22.84	23.58	24.05
8H	4H	22.29	23.12	22.75	23.56	24.03	22.06	22.89	22.52	23.33	23.80
	6H	22.81	23.50	23.31	23.99	24.47	22.56	23.25	23.05	23.73	24.21
	8H	22.98	23.59	23.49	24.10	24.59	22.71	23.32	23.22	23.83	24.32
	12H	23.09	23.63	23.60	24.12	24.69	22.81	23.35	23.31	23.84	24.40
12H	4H	22.30	23.04	22.78	23.52	23.99	22.08	22.82	22.56	23.30	23.77
	6H	22.84	23.45	23.35	23.96	24.45	22.59	23.21	23.10	23.71	24.20
	8H	23.05	23.59	23.55	24.08	24.64	22.78	23.33	23.29	23.82	24.38