

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: P1439949

Luminaire Tested: S124DR-S290D830-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439949  
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-S290D830-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

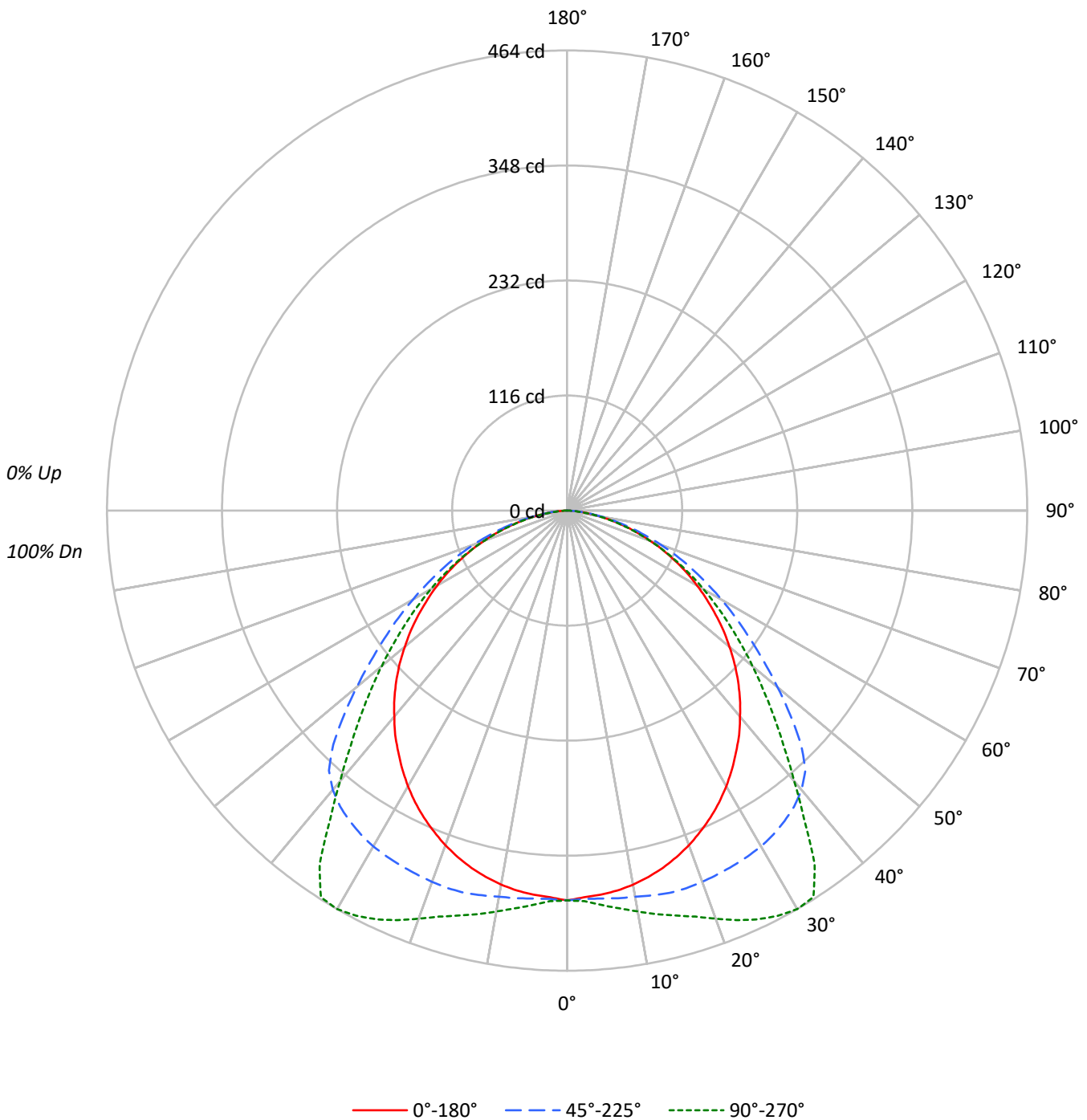
Lumens per Lamp: N/A  
Luminaire Lumens: 1194.5 lumens  
Efficiency: N/A  
Efficacy: 94.8 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct

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				
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°	3475	3475	3475
5°	3451	3484	3543
10°	3438	3549	3684
15°	3414	3654	3869
20°	3379	3748	4119
25°	3333	3856	4436
30°	3276	3993	4737
35°	3206	4125	4696
40°	3129	4243	4109
45°	3048	4171	3694
50°	2939	3809	3358
55°	2818	3467	3067
60°	2681	3178	2810
65°	2517	2897	2567
70°	2303	2593	2293
75°	2029	2227	1988
80°	1670	1787	1609
85°	1177	1217	1096

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 4171 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.7	3.2
10°-20°	113.0	9.5
20°-30°	184.0	15.4
30°-40°	233.6	19.6
40°-50°	227.6	19.1
50°-60°	186.6	15.6
60°-70°	130.2	10.9
70°-80°	66.8	5.6
80°-90°	14.8	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°	334.7	28.0
0°-40°	568.3	47.6
0°-60°	982.6	82.3
0°-90°	1194.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1194.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	393	393	393	393	393	
5°	389	395	393	395	399	37
15°	373	384	399	415	423	105
25°	342	364	395	436	455	157
35°	297	326	382	438	435	186
45°	244	274	334	306	295	188
55°	183	211	225	206	199	163
65°	120	138	138	127	123	119
75°	59	66	65	61	58	63
85°	12	12	12	11	11	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	393.0	393.0	393.0	393.0	393.0
2.5°	390.3	395.3	391.9	393.4	394.2
5°	388.8	394.6	392.6	395.3	399.2
7.5°	386.5	393.0	394.2	399.6	404.6
10°	383.0	390.7	395.3	404.6	410.4
12.5°	378.4	388.0	397.3	410.0	416.9
15°	373.0	384.5	399.2	415.0	422.7
17.5°	366.4	380.3	399.2	418.9	429.3
20°	359.1	375.3	398.4	423.9	437.8
22.5°	350.6	369.9	396.9	429.7	447.0
25°	341.7	363.7	395.3	436.2	454.7
27.5°	331.7	356.4	393.4	441.2	460.5
30°	320.9	347.5	391.1	443.6	464.0
32.5°	309.3	337.1	387.2	443.6	462.1
35°	297.0	325.9	382.2	437.8	435.1
37.5°	285.0	314.0	376.1	409.6	392.6
40°	271.1	301.2	367.6	369.9	356.0
42.5°	258.0	287.7	355.6	336.3	324.0
45°	243.8	273.8	333.6	305.9	295.4
47.5°	229.1	258.8	305.1	278.5	268.8
50°	213.7	243.8	276.9	252.6	244.1
52.5°	198.6	227.6	249.9	228.7	220.6
55°	182.8	211.0	224.9	206.0	199.0
57.5°	167.0	194.0	202.1	184.7	178.2
60°	151.6	175.9	179.7	164.7	158.9
62.5°	136.2	157.0	158.5	145.4	140.4
65°	120.3	137.7	138.5	127.3	122.7
67.5°	104.9	119.2	119.2	109.5	105.7
70°	89.1	101.1	100.3	92.6	88.7
72.5°	74.1	82.5	81.8	76.0	73.3
75°	59.4	66.0	65.2	60.6	58.2
77.5°	45.5	50.1	49.4	46.3	44.4
80°	32.8	35.5	35.1	32.8	31.6
82.5°	21.6	23.1	22.4	20.8	20.1
85°	11.6	12.0	12.0	11.2	10.8
87.5°	4.2	4.2	4.2	4.2	3.9
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	16.01	17.61	16.38	17.92	18.24	15.79	17.39	16.16	17.71	18.02
	3H	17.51	18.95	17.89	19.28	19.64	17.27	18.71	17.64	19.03	19.39
	4H	18.02	19.37	18.42	19.72	20.10	17.76	19.12	18.16	19.46	19.84
	6H	18.34	19.59	18.75	19.96	20.35	18.08	19.33	18.49	19.70	20.09
	8H	18.42	19.62	18.85	20.00	20.40	18.16	19.35	18.58	19.74	20.14
	12H	18.46	19.60	18.89	19.99	20.42	18.19	19.33	18.62	19.72	20.14
4H	2H	16.63	17.99	17.03	18.34	18.71	16.46	17.82	16.86	18.16	18.54
	3H	18.36	19.49	18.77	19.89	20.29	18.13	19.26	18.54	19.66	20.06
	4H	18.99	20.01	19.42	20.42	20.86	18.73	19.75	19.16	20.16	20.60
	6H	19.42	20.31	19.87	20.75	21.20	19.14	20.03	19.60	20.47	20.93
	8H	19.53	20.36	19.99	20.80	21.27	19.25	20.07	19.71	20.52	20.98
	12H	19.60	20.34	20.08	20.82	21.29	19.30	20.05	19.78	20.52	20.99
8H	4H	19.23	20.06	19.70	20.51	20.97	19.00	19.83	19.46	20.27	20.74
	6H	19.76	20.44	20.25	20.93	21.41	19.50	20.19	20.00	20.68	21.15
	8H	19.92	20.54	20.43	21.04	21.53	19.65	20.27	20.16	20.77	21.26
	12H	20.03	20.58	20.54	21.07	21.63	19.75	20.29	20.26	20.78	21.35
12H	4H	19.25	19.99	19.73	20.46	20.93	19.02	19.76	19.50	20.24	20.71
	6H	19.78	20.40	20.29	20.90	21.39	19.53	20.15	20.04	20.66	21.14
	8H	19.99	20.53	20.50	21.02	21.59	19.72	20.27	20.23	20.76	21.32