

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: P1439913

Luminaire Tested: S124DR-H485D830-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439913  
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-H485D830-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

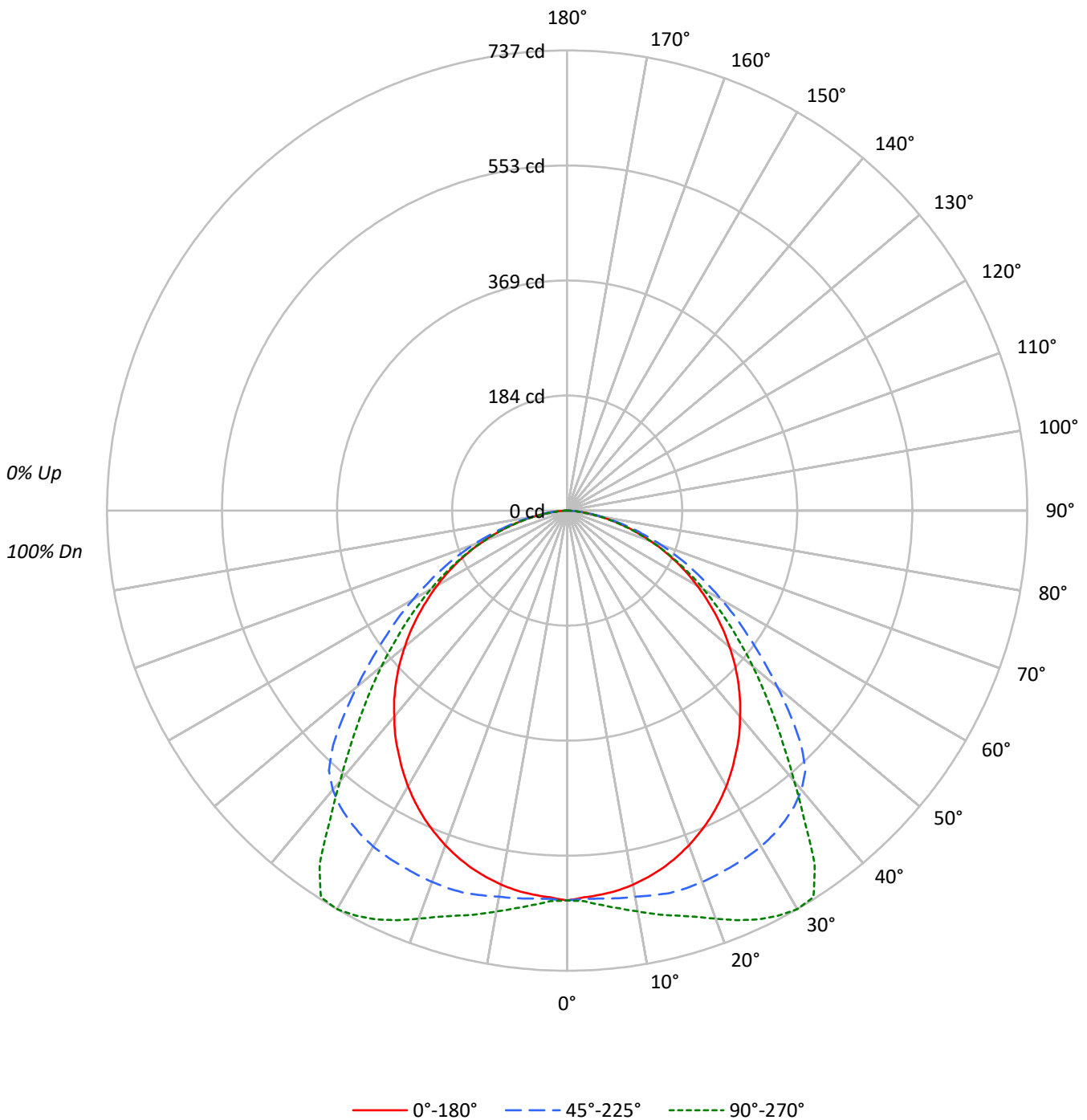
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1897.5 lumens  
Efficiency: N/A  
Efficacy: 109.7 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): 17.3  
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°	5521	5521	5521
5°	5481	5535	5629
10°	5462	5638	5853
15°	5423	5805	6146
20°	5367	5955	6543
25°	5296	6126	7047
30°	5205	6343	7525
35°	5092	6554	7459
40°	4971	6739	6527
45°	4841	6627	5868
50°	4668	6051	5335
55°	4476	5506	4874
60°	4258	5048	4463
65°	4000	4603	4075
70°	3658	4118	3642
75°	3225	3536	3160
80°	2653	2841	2556
85°	1867	1927	1745

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 6627 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.9	3.2
10°-20°	179.5	9.5
20°-30°	292.2	15.4
30°-40°	371.1	19.6
40°-50°	361.6	19.1
50°-60°	296.5	15.6
60°-70°	206.9	10.9
70°-80°	106.2	5.6
80°-90°	23.5	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°	531.7	28.0
0°-40°	902.8	47.6
0°-60°	1560.9	82.3
0°-90°	1897.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1897.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	624	624	624	624	624	
5°	618	627	624	628	634	59
15°	592	611	634	659	672	167
25°	543	578	628	693	722	250
35°	472	518	607	695	691	295
45°	387	435	530	486	469	298
55°	290	335	357	327	316	260
65°	191	219	220	202	195	189
75°	94	105	104	96	92	100
85°	18	19	19	18	17	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	624.4	624.4	624.4	624.4	624.4
2.5°	620.1	628.0	622.5	625.0	626.2
5°	617.6	626.8	623.7	628.0	634.2
7.5°	613.9	624.4	626.2	634.8	642.7
10°	608.4	620.7	628.0	642.7	651.9
12.5°	601.1	616.4	631.1	651.3	662.3
15°	592.5	610.9	634.2	659.3	671.5
17.5°	582.1	604.1	634.2	665.4	682.0
20°	570.4	596.2	632.9	673.4	695.4
22.5°	557.0	587.6	630.5	682.6	710.1
25°	542.9	577.8	628.0	693.0	722.4
27.5°	526.9	566.2	625.0	701.0	731.6
30°	509.8	552.1	621.3	704.6	737.1
32.5°	491.4	535.5	615.2	704.6	734.0
35°	471.8	517.7	607.2	695.4	691.1
37.5°	452.8	498.8	597.4	650.7	623.7
40°	430.7	478.5	583.9	587.6	565.5
42.5°	409.9	457.1	564.9	534.3	514.7
45°	387.2	435.0	530.0	485.9	469.3
47.5°	364.0	411.1	484.7	442.4	427.1
50°	339.4	387.2	439.9	401.3	387.9
52.5°	315.6	361.5	397.0	363.3	350.5
55°	290.4	335.2	357.2	327.2	316.2
57.5°	265.3	308.2	321.1	293.5	283.1
60°	240.8	279.4	285.5	261.6	252.4
62.5°	216.3	249.4	251.8	231.0	223.0
65°	191.2	218.7	220.0	202.2	194.8
67.5°	166.7	189.3	189.3	174.0	167.9
70°	141.5	160.5	159.3	147.1	140.9
72.5°	117.6	131.1	129.9	120.7	116.4
75°	94.4	104.8	103.5	96.2	92.5
77.5°	72.3	79.7	78.4	73.5	70.5
80°	52.1	56.4	55.8	52.1	50.2
82.5°	34.3	36.8	35.5	33.1	31.9
85°	18.4	19.0	19.0	17.8	17.2
87.5°	6.7	6.7	6.7	6.7	6.1
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	17.62	19.22	17.98	19.53	19.85	17.40	19.00	17.77	19.32	19.63
	3H	19.12	20.56	19.50	20.89	21.25	18.88	20.32	19.25	20.64	21.00
	4H	19.63	20.98	20.02	21.33	21.70	19.37	20.72	19.77	21.07	21.45
	6H	19.95	21.20	20.36	21.56	21.96	19.69	20.94	20.10	21.30	21.70
	8H	20.03	21.22	20.45	21.61	22.01	19.76	20.96	20.19	21.35	21.75
	12H	20.07	21.21	20.50	21.59	22.02	19.80	20.94	20.23	21.32	21.75
4H	2H	18.24	19.60	18.64	19.94	20.32	18.07	19.43	18.47	19.77	20.15
	3H	19.97	21.10	20.38	21.50	21.90	19.74	20.87	20.15	21.27	21.67
	4H	20.60	21.62	21.03	22.03	22.47	20.34	21.35	20.77	21.77	22.20
	6H	21.03	21.91	21.48	22.35	22.81	20.75	21.64	21.20	22.08	22.53
	8H	21.14	21.97	21.60	22.41	22.88	20.85	21.68	21.31	22.12	22.59
	12H	21.20	21.95	21.69	22.42	22.89	20.91	21.65	21.39	22.13	22.60
8H	4H	20.84	21.67	21.30	22.11	22.58	20.61	21.44	21.07	21.88	22.35
	6H	21.37	22.05	21.86	22.54	23.02	21.11	21.80	21.60	22.28	22.76
	8H	21.53	22.15	22.04	22.65	23.14	21.26	21.87	21.77	22.38	22.87
	12H	21.64	22.18	22.15	22.67	23.24	21.36	21.90	21.87	22.39	22.95
12H	4H	20.85	21.59	21.33	22.07	22.54	20.63	21.37	21.11	21.85	22.32
	6H	21.39	22.00	21.90	22.51	23.00	21.14	21.76	21.65	22.26	22.75
	8H	21.60	22.14	22.10	22.63	23.19	21.33	21.88	21.84	22.37	22.93