

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: P1439914

Luminaire Tested: S124DR-H485D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439914  
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-H485D835-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

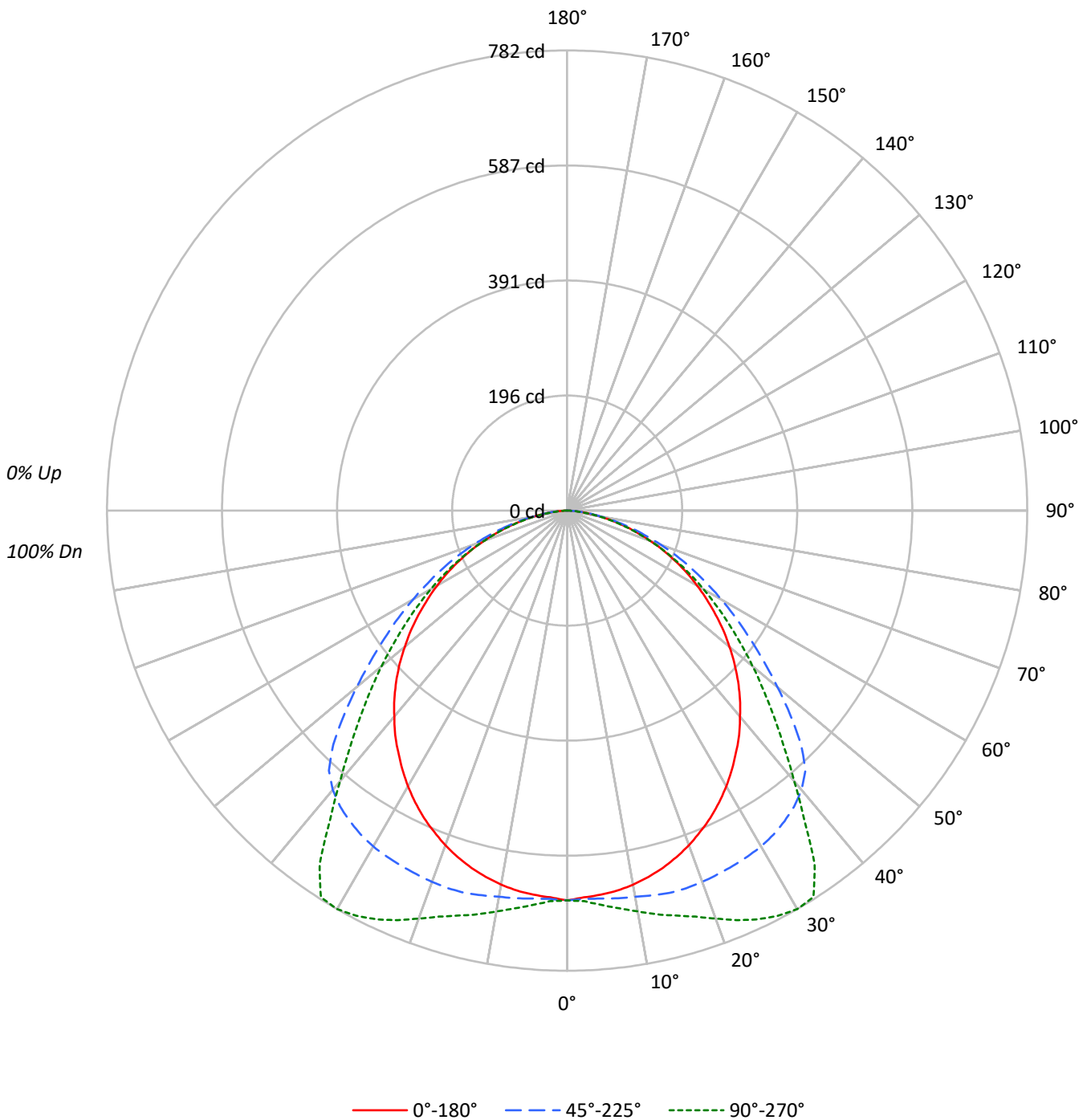
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2013.2 lumens  
Efficiency: N/A  
Efficacy: 116.4 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																		
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	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°	5857	5857	5857
5°	5816	5874	5971
10°	5795	5982	6210
15°	5754	6158	6522
20°	5694	6318	6942
25°	5619	6500	7477
30°	5522	6730	7984
35°	5403	6953	7915
40°	5275	7150	6925
45°	5136	7031	6227
50°	4953	6421	5660
55°	4749	5842	5170
60°	4518	5356	4735
65°	4243	4883	4324
70°	3883	4369	3865
75°	3419	3754	3355
80°	2816	3014	2714
85°	1978	2049	1846

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 7031 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.6	3.2
10°-20°	190.5	9.5
20°-30°	310.1	15.4
30°-40°	393.7	19.6
40°-50°	383.7	19.1
50°-60°	314.6	15.6
60°-70°	219.5	10.9
70°-80°	112.6	5.6
80°-90°	25.0	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°	564.1	28.0
0°-40°	957.8	47.6
0°-60°	1656.1	82.3
0°-90°	2013.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2013.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	662	662	662	662	662	
5°	655	665	662	666	673	62
15°	629	648	673	700	712	177
25°	576	613	666	735	766	265
35°	501	549	644	738	733	313
45°	411	462	562	516	498	317
55°	308	356	379	347	335	275
65°	203	232	233	214	207	201
75°	100	111	110	102	98	107
85°	20	20	20	19	18	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	662.4	662.4	662.4	662.4	662.4
2.5°	657.9	666.3	660.5	663.1	664.4
5°	655.3	665.0	661.8	666.3	672.8
7.5°	651.4	662.4	664.4	673.5	681.9
10°	645.5	658.5	666.3	681.9	691.7
12.5°	637.7	654.0	669.6	691.0	702.7
15°	628.6	648.1	672.8	699.5	712.5
17.5°	617.6	641.0	672.8	706.0	723.5
20°	605.2	632.5	671.5	714.4	737.8
22.5°	590.9	623.4	668.9	724.2	753.4
25°	576.0	613.0	666.3	735.2	766.4
27.5°	559.1	600.7	663.1	743.7	776.2
30°	540.9	585.7	659.2	747.6	782.0
32.5°	521.4	568.2	652.7	747.6	778.8
35°	500.6	549.3	644.2	737.8	733.3
37.5°	480.4	529.2	633.8	690.4	661.8
40°	457.0	507.7	619.5	623.4	600.0
42.5°	434.9	485.0	599.4	566.9	546.1
45°	410.8	461.6	562.3	515.5	498.0
47.5°	386.1	436.2	514.2	469.4	453.1
50°	360.1	410.8	466.8	425.8	411.5
52.5°	334.8	383.5	421.2	385.5	371.8
55°	308.1	355.6	379.0	347.1	335.4
57.5°	281.5	327.0	340.6	311.4	300.3
60°	255.5	296.4	302.9	277.6	267.8
62.5°	229.5	264.6	267.2	245.1	236.6
65°	202.8	232.1	233.4	214.5	206.7
67.5°	176.8	200.9	200.9	184.6	178.1
70°	150.2	170.3	169.0	156.0	149.5
72.5°	124.8	139.1	137.8	128.1	123.5
75°	100.1	111.2	109.9	102.1	98.2
77.5°	76.7	84.5	83.2	78.0	74.8
80°	55.3	59.8	59.2	55.3	53.3
82.5°	36.4	39.0	37.7	35.1	33.8
85°	19.5	20.2	20.2	18.9	18.2
87.5°	7.2	7.2	7.2	7.2	6.5
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	17.83	19.42	18.19	19.74	20.05	17.61	19.21	17.97	19.52	19.84
	3H	19.33	20.77	19.71	21.10	21.46	19.08	20.52	19.46	20.85	21.21
	4H	19.83	21.18	20.23	21.53	21.91	19.58	20.93	19.98	21.28	21.65
	6H	20.15	21.40	20.56	21.77	22.16	19.89	21.15	20.30	21.51	21.90
	8H	20.24	21.43	20.66	21.82	22.22	19.97	21.16	20.39	21.55	21.95
	12H	20.27	21.42	20.70	21.80	22.23	20.00	21.15	20.43	21.53	21.96
4H	2H	18.45	19.80	18.85	20.15	20.53	18.28	19.63	18.68	19.98	20.36
	3H	20.18	21.30	20.59	21.70	22.10	19.95	21.07	20.35	21.47	21.87
	4H	20.81	21.82	21.24	22.24	22.67	20.54	21.56	20.97	21.97	22.41
	6H	21.23	22.12	21.69	22.56	23.02	20.96	21.84	21.41	22.28	22.74
	8H	21.35	22.17	21.81	22.62	23.08	21.06	21.89	21.52	22.33	22.80
	12H	21.41	22.15	21.89	22.63	23.10	21.12	21.86	21.60	22.34	22.81
8H	4H	21.05	21.88	21.51	22.32	22.78	20.81	21.64	21.28	22.09	22.55
	6H	21.57	22.26	22.07	22.75	23.22	21.32	22.00	21.81	22.49	22.97
	8H	21.74	22.35	22.25	22.86	23.34	21.46	22.08	21.97	22.59	23.07
	12H	21.84	22.39	22.35	22.88	23.44	21.56	22.11	22.07	22.60	23.16
12H	4H	21.06	21.80	21.54	22.28	22.75	20.83	21.57	21.31	22.05	22.52
	6H	21.59	22.21	22.10	22.72	23.20	21.35	21.96	21.86	22.47	22.96
	8H	21.80	22.35	22.31	22.84	23.40	21.54	22.08	22.05	22.57	23.14