

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: P1439964

Luminaire Tested: S124DR-S485D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439964  
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-S485D935-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

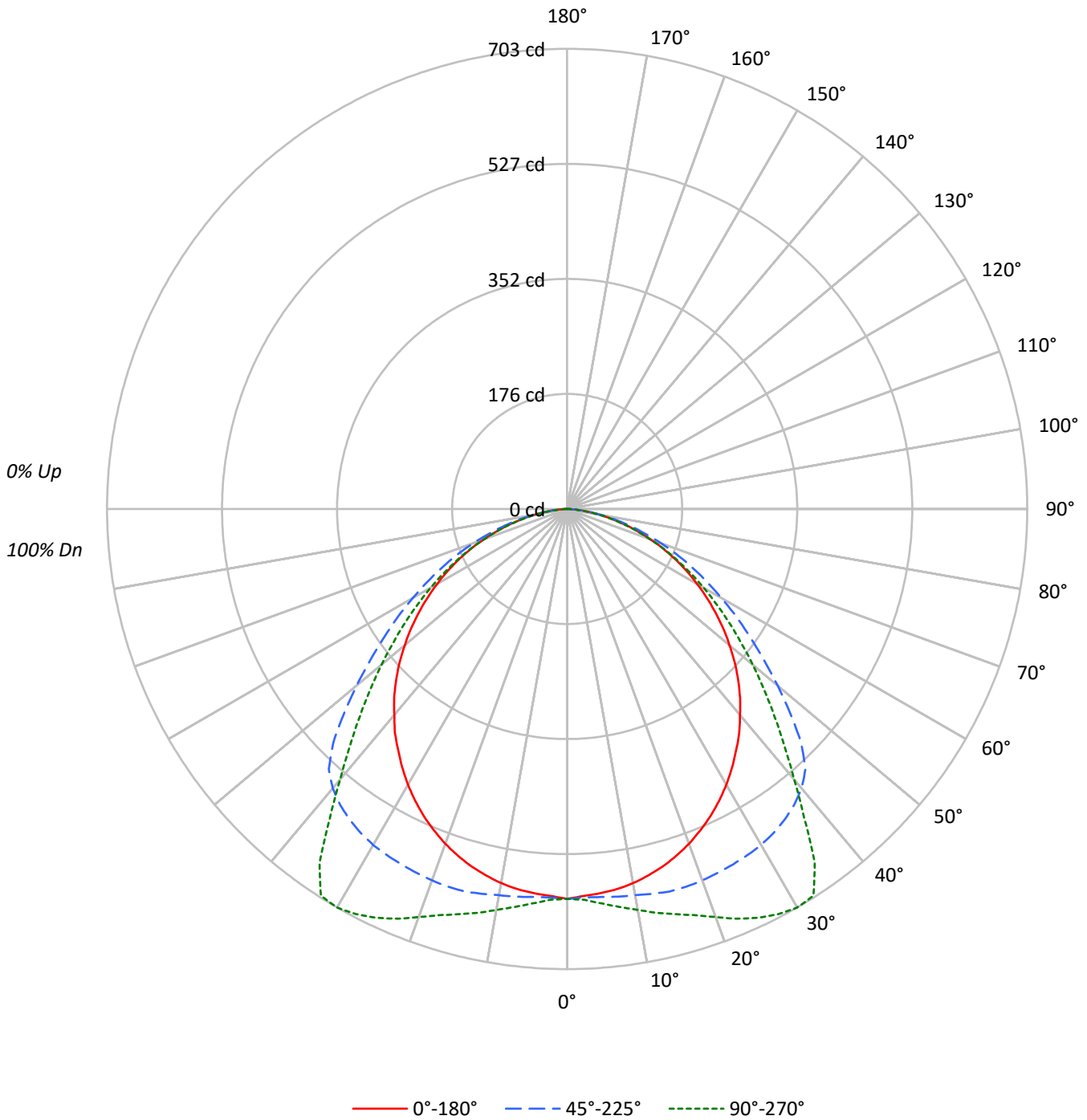
Lumens per Lamp: N/A  
Luminaire Lumens: 1810.3 lumens  
Efficiency: N/A  
Efficacy: 94.8 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.1  
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	66	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°	5267	5267	5267
5°	5229	5282	5369
10°	5212	5379	5584
15°	5174	5538	5864
20°	5120	5681	6243
25°	5052	5845	6723
30°	4965	6051	7179
35°	4858	6253	7117
40°	4742	6430	6227
45°	4619	6322	5599
50°	4454	5773	5089
55°	4271	5253	4649
60°	4062	4817	4258
65°	3816	4391	3889
70°	3490	3929	3474
75°	3074	3375	3016
80°	2530	2709	2439
85°	1775	1836	1664

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 6322 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.2	3.2
10°-20°	171.3	9.5
20°-30°	278.8	15.4
30°-40°	354.0	19.6
40°-50°	345.0	19.1
50°-60°	282.9	15.6
60°-70°	197.4	10.9
70°-80°	101.3	5.6
80°-90°	22.5	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°	507.2	28.0
0°-40°	861.3	47.6
0°-60°	1489.1	82.3
0°-90°	1810.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1810.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	596	596	596	596	596	
5°	589	598	595	599	605	56
15°	565	583	605	629	641	159
25°	518	551	599	661	689	238
35°	450	494	579	664	659	282
45°	369	415	506	464	448	285
55°	277	320	341	312	302	248
65°	182	209	210	193	186	181
75°	90	100	99	92	88	96
85°	18	18	18	17	16	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	595.7	595.7	595.7	595.7	595.7
2.5°	591.6	599.2	593.9	596.2	597.4
5°	589.2	598.0	595.1	599.2	605.0
7.5°	585.7	595.7	597.4	605.6	613.2
10°	580.5	592.2	599.2	613.2	622.0
12.5°	573.4	588.1	602.1	621.4	631.9
15°	565.3	582.8	605.0	629.0	640.7
17.5°	555.3	576.4	605.0	634.8	650.6
20°	544.2	568.8	603.8	642.4	663.5
22.5°	531.4	560.6	601.5	651.2	677.5
25°	517.9	551.2	599.2	661.1	689.2
27.5°	502.7	540.1	596.2	668.7	698.0
30°	486.3	526.7	592.7	672.2	703.2
32.5°	468.8	510.9	586.9	672.2	700.3
35°	450.1	493.9	579.3	663.5	659.4
37.5°	432.0	475.8	569.9	620.8	595.1
40°	410.9	456.5	557.1	560.6	539.5
42.5°	391.1	436.1	539.0	509.7	491.0
45°	369.4	415.0	505.6	463.6	447.8
47.5°	347.2	392.2	462.4	422.0	407.4
50°	323.8	369.4	419.7	382.9	370.0
52.5°	301.0	344.9	378.8	346.6	334.4
55°	277.1	319.8	340.8	312.2	301.6
57.5°	253.1	294.0	306.3	280.0	270.1
60°	229.7	266.6	272.4	249.6	240.8
62.5°	206.3	237.9	240.3	220.4	212.8
65°	182.4	208.7	209.9	192.9	185.9
67.5°	159.0	180.6	180.6	166.0	160.2
70°	135.0	153.2	152.0	140.3	134.4
72.5°	112.2	125.1	123.9	115.2	111.1
75°	90.0	100.0	98.8	91.8	88.3
77.5°	69.0	76.0	74.8	70.1	67.2
80°	49.7	53.8	53.2	49.7	47.9
82.5°	32.7	35.1	33.9	31.6	30.4
85°	17.5	18.1	18.1	17.0	16.4
87.5°	6.4	6.4	6.4	6.4	5.8
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	17.46	19.05	17.82	19.37	19.68	17.24	18.84	17.61	19.15	19.47
	3H	18.96	20.40	19.34	20.73	21.09	18.71	20.15	19.09	20.48	20.84
	4H	19.46	20.82	19.86	21.16	21.54	19.21	20.56	19.61	20.91	21.29
	6H	19.78	21.04	20.19	21.40	21.79	19.52	20.78	19.94	21.14	21.53
	8H	19.87	21.06	20.29	21.45	21.85	19.60	20.79	20.03	21.18	21.58
	12H	19.90	21.05	20.33	21.43	21.86	19.63	20.78	20.06	21.16	21.59
4H	2H	18.08	19.43	18.48	19.78	20.16	17.91	19.26	18.31	19.61	19.99
	3H	19.81	20.94	20.22	21.33	21.73	19.58	20.70	19.99	21.10	21.50
	4H	20.44	21.45	20.87	21.87	22.30	20.17	21.19	20.61	21.60	22.04
	6H	20.86	21.75	21.32	22.19	22.65	20.59	21.47	21.04	21.91	22.37
	8H	20.98	21.80	21.44	22.25	22.71	20.69	21.52	21.15	21.96	22.43
	12H	21.04	21.78	21.52	22.26	22.73	20.75	21.49	21.23	21.97	22.44
8H	4H	20.68	21.51	21.14	21.95	22.41	20.45	21.27	20.91	21.72	22.18
	6H	21.20	21.89	21.70	22.38	22.85	20.95	21.63	21.44	22.12	22.60
	8H	21.37	21.98	21.88	22.49	22.98	21.09	21.71	21.61	22.22	22.70
	12H	21.48	22.02	21.98	22.51	23.07	21.19	21.74	21.70	22.23	22.79
12H	4H	20.69	21.43	21.17	21.91	22.38	20.46	21.21	20.94	21.68	22.15
	6H	21.22	21.84	21.73	22.35	22.83	20.98	21.59	21.49	22.10	22.59
	8H	21.43	21.98	21.94	22.47	23.03	21.17	21.71	21.68	22.20	22.77