

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: P1439827

Luminaire Tested: S123DR-S485D927-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439827  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/2/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DR-S485D927-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

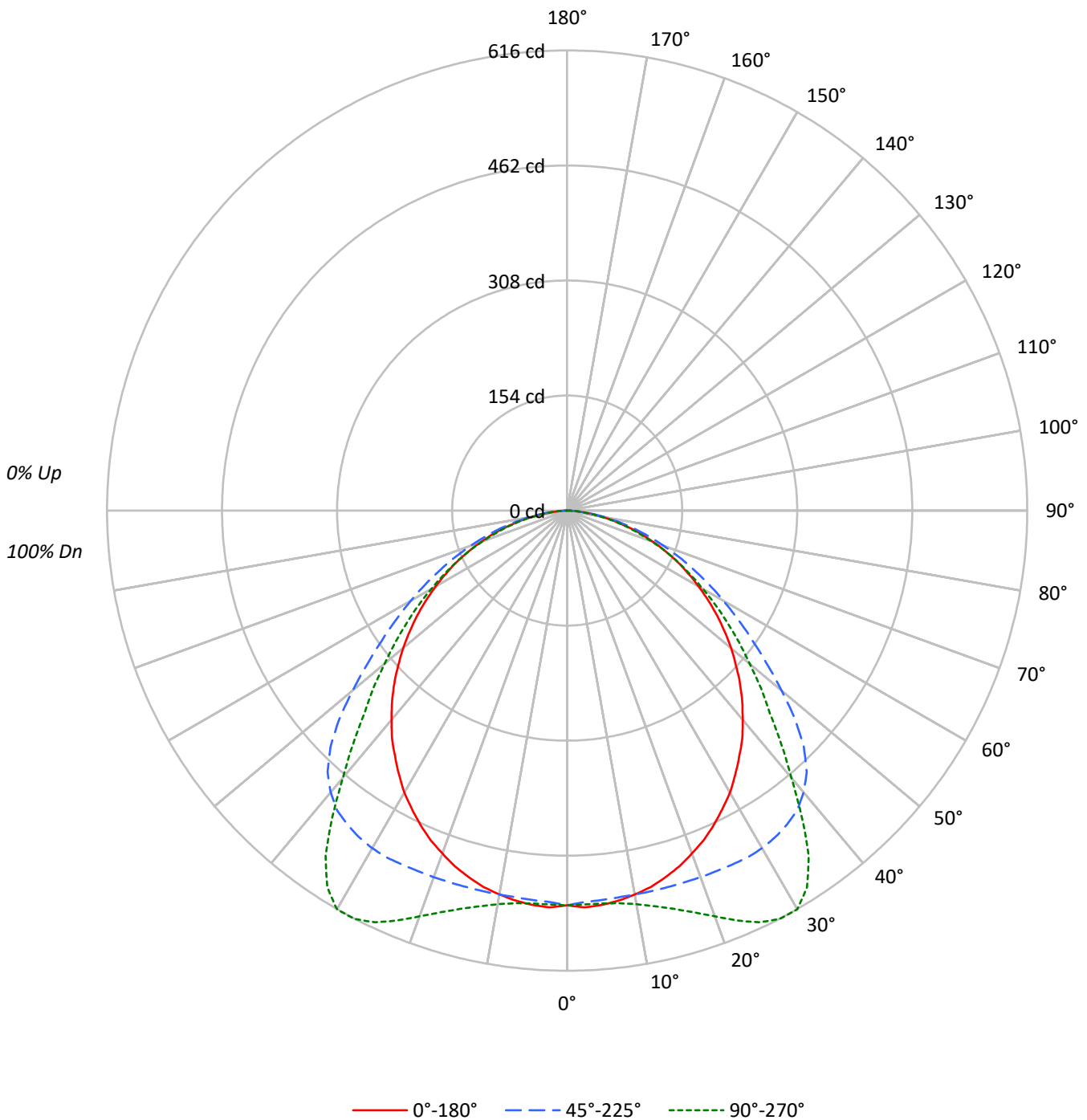
Lumens per Lamp: N/A  
Luminaire Lumens: 1598.0 lumens  
Efficiency: N/A  
Efficacy: 83.7 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	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°	6369	6369	6369
5°	6414	6334	6388
10°	6388	6388	6548
15°	6342	6513	6887
20°	6266	6701	7416
25°	6178	6956	8089
30°	6070	7264	8580
35°	5911	7550	8298
40°	5752	7748	7344
45°	5581	7639	6539
50°	5379	7030	5985
55°	5146	6363	5501
60°	4900	5823	5059
65°	4661	5332	4676
70°	4315	4833	4237
75°	3894	4300	3792
80°	3263	3603	3110
85°	2490	2642	2338

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 7639 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.3	3.1
10°-20°	149.5	9.4
20°-30°	245.0	15.3
30°-40°	309.9	19.4
40°-50°	302.8	18.9
50°-60°	248.7	15.6
60°-70°	175.5	11.0
70°-80°	93.5	5.9
80°-90°	22.8	1.4
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°	444.8	27.8
0°-40°	754.7	47.2
0°-60°	1306.2	81.7
0°-90°	1598.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1598.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	528	528	528	528	528	
5°	530	528	523	529	528	50
15°	508	511	522	545	552	143
25°	464	478	523	586	608	214
35°	402	429	513	573	564	251
45°	327	364	448	404	384	252
55°	245	281	303	272	262	219
65°	163	187	187	170	164	161
75°	84	94	92	84	81	89
85°	18	20	19	18	17	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	528.3	528.3	528.3	528.3	528.3
2.5°	531.6	530.0	524.5	529.4	527.8
5°	530.0	527.8	523.4	528.9	527.8
7.5°	526.7	525.6	522.3	530.5	530.0
10°	521.8	521.2	521.8	533.8	534.9
12.5°	516.3	516.8	521.8	538.7	542.5
15°	508.1	510.8	521.8	545.3	551.8
17.5°	499.4	503.7	521.8	554.0	563.8
20°	488.4	496.1	522.3	563.3	578.0
22.5°	477.5	486.8	522.3	575.8	593.9
25°	464.4	478.1	522.9	586.2	608.1
27.5°	450.2	466.6	523.4	594.4	616.3
30°	436.0	455.7	521.8	597.7	616.3
32.5°	419.0	443.1	518.5	592.2	597.7
35°	401.6	429.4	513.0	572.6	563.8
37.5°	385.2	414.7	505.9	536.5	515.8
40°	365.5	398.8	492.3	490.6	466.6
42.5°	346.9	381.9	474.8	444.2	424.5
45°	327.3	364.4	448.0	404.3	383.5
47.5°	306.5	345.3	414.1	366.6	351.8
50°	286.8	325.6	374.8	332.2	319.1
52.5°	265.5	304.9	337.1	301.6	290.1
55°	244.8	281.4	302.7	272.1	261.7
57.5°	224.0	258.4	271.0	244.2	236.0
60°	203.2	234.4	241.5	218.5	209.8
62.5°	183.0	212.0	214.2	194.0	186.3
65°	163.4	186.9	186.9	170.5	163.9
67.5°	142.6	162.8	161.7	146.4	142.6
70°	122.4	139.3	137.1	124.6	120.2
72.5°	103.3	115.8	114.2	104.4	99.4
75°	83.6	94.0	92.3	83.6	81.4
77.5°	65.0	72.1	70.5	64.5	62.8
80°	47.0	52.4	51.9	47.5	44.8
82.5°	31.7	34.4	33.9	31.1	29.5
85°	18.0	19.7	19.1	17.5	16.9
87.5°	7.1	8.2	8.7	8.2	7.6
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	18.07	19.68	18.44	19.99	20.30	17.80	19.40	18.16	19.72	20.03
	3H	19.64	21.09	20.02	21.41	21.77	19.31	20.76	19.69	21.09	21.45
	4H	20.19	21.55	20.59	21.90	22.28	19.85	21.21	20.25	21.56	21.93
	6H	20.56	21.82	20.97	22.18	22.57	20.21	21.46	20.62	21.83	22.22
	8H	20.66	21.86	21.08	22.25	22.65	20.30	21.50	20.72	21.89	22.29
	12H	20.71	21.86	21.14	22.24	22.67	20.35	21.50	20.78	21.88	22.31
4H	2H	18.71	20.07	19.11	20.42	20.79	18.50	19.86	18.90	20.20	20.58
	3H	20.52	21.65	20.93	22.05	22.45	20.21	21.35	20.62	21.75	22.15
	4H	21.21	22.23	21.64	22.64	23.08	20.85	21.87	21.28	22.29	22.72
	6H	21.69	22.58	22.14	23.02	23.48	21.31	22.20	21.76	22.64	23.10
	8H	21.82	22.65	22.28	23.10	23.56	21.44	22.27	21.90	22.71	23.18
	12H	21.90	22.65	22.39	23.13	23.60	21.52	22.26	22.00	22.74	23.21
8H	4H	21.47	22.30	21.93	22.75	23.21	21.16	21.99	21.62	22.43	22.90
	6H	22.06	22.75	22.56	23.24	23.72	21.72	22.41	22.21	22.90	23.37
	8H	22.25	22.88	22.76	23.38	23.87	21.90	22.52	22.41	23.02	23.51
	12H	22.40	22.94	22.90	23.44	24.00	22.03	22.58	22.53	23.07	23.63
12H	4H	21.49	22.24	21.97	22.71	23.18	21.18	21.93	21.66	22.41	22.88
	6H	22.09	22.72	22.60	23.22	23.71	21.76	22.38	22.27	22.89	23.38
	8H	22.34	22.89	22.84	23.38	23.94	21.99	22.54	22.50	23.03	23.59