

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: P1439828

Luminaire Tested: S123DR-S485D930-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439828
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-S485D930-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

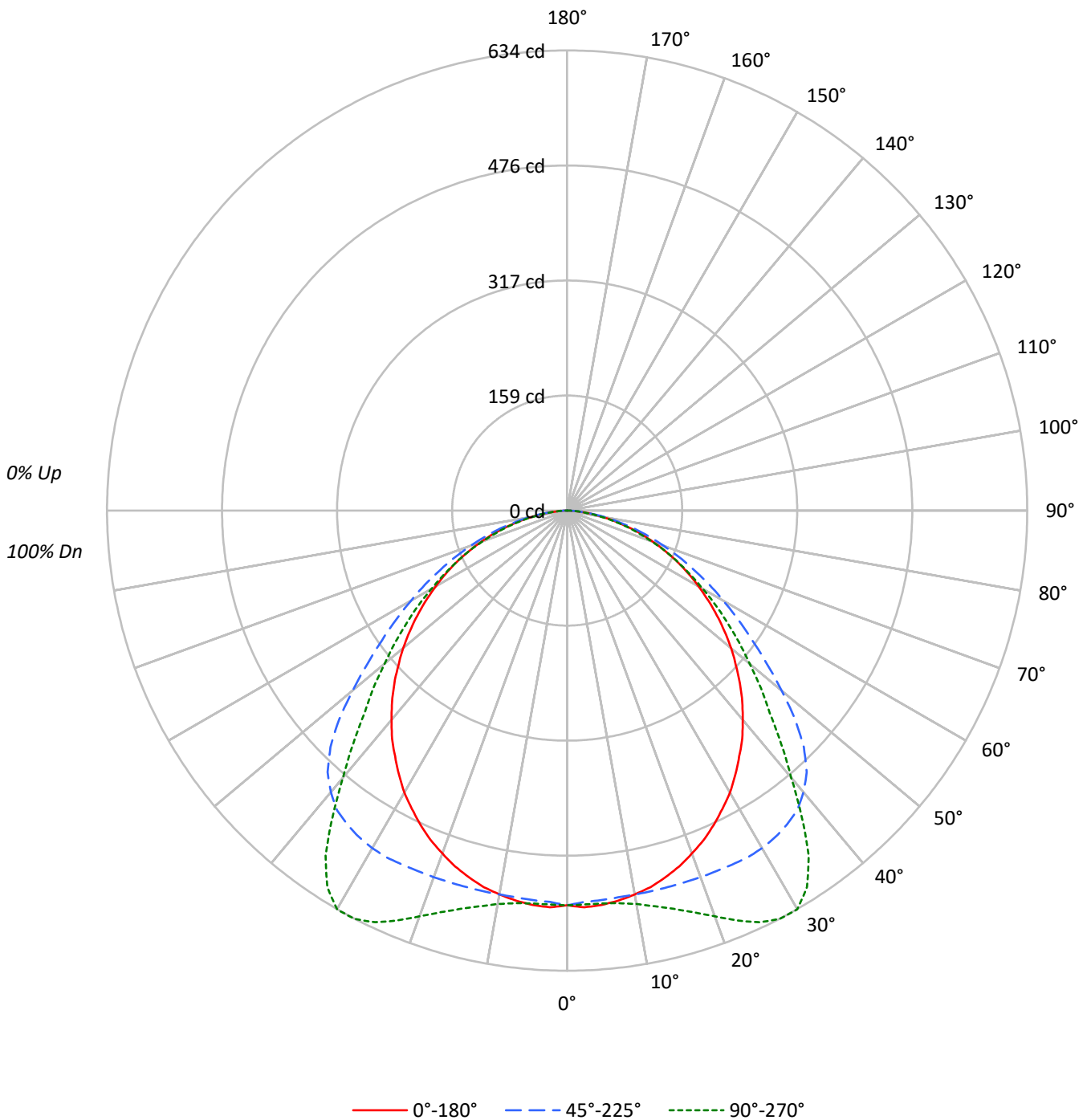
Lumens per Lamp: N/A
Luminaire Lumens: 1644.6 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
Input Voltage (V): 120
Input Current (A_{in}): 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	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°	6555	6555	6555
5°	6601	6520	6574
10°	6574	6574	6739
15°	6527	6703	7088
20°	6450	6896	7633
25°	6357	7158	8325
30°	6247	7476	8830
35°	6083	7771	8541
40°	5921	7973	7558
45°	5743	7862	6730
50°	5537	7234	6160
55°	5295	6548	5661
60°	5044	5992	5206
65°	4796	5486	4813
70°	4442	4974	4360
75°	4006	4425	3904
80°	3360	3708	3201
85°	2573	2725	2407

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 7862 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.8	3.1
10°-20°	153.8	9.4
20°-30°	252.1	15.3
30°-40°	319.0	19.4
40°-50°	311.6	18.9
50°-60°	256.0	15.6
60°-70°	180.6	11.0
70°-80°	96.2	5.9
80°-90°	23.5	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°	457.8	27.8
0°-40°	776.7	47.2
0°-60°	1344.3	81.7
0°-90°	1644.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1644.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	544	544	544	544	544	
5°	545	543	539	544	543	52
15°	523	526	537	561	568	147
25°	478	492	538	603	626	220
35°	413	442	528	589	580	259
45°	337	375	461	416	395	260
55°	252	290	312	280	269	225
65°	168	192	192	175	169	166
75°	86	97	95	86	84	91
85°	19	20	20	18	17	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	543.7	543.7	543.7	543.7	543.7
2.5°	547.1	545.4	539.8	544.9	543.2
5°	545.4	543.2	538.7	544.3	543.2
7.5°	542.0	540.9	537.5	546.0	545.4
10°	537.0	536.4	537.0	549.4	550.5
12.5°	531.4	531.9	537.0	554.4	558.4
15°	522.9	525.7	537.0	561.2	567.9
17.5°	513.9	518.4	537.0	570.2	580.3
20°	502.7	510.6	537.5	579.7	594.9
22.5°	491.4	501.0	537.5	592.7	611.2
25°	477.9	492.0	538.1	603.3	625.8
27.5°	463.3	480.2	538.7	611.8	634.3
30°	448.7	469.0	537.0	615.1	634.3
32.5°	431.3	456.0	533.6	609.5	615.1
35°	413.3	442.0	528.0	589.3	580.3
37.5°	396.4	426.8	520.7	552.2	530.8
40°	376.2	410.5	506.6	504.9	480.2
42.5°	357.1	393.0	488.6	457.1	436.9
45°	336.8	375.0	461.1	416.1	394.7
47.5°	315.4	355.4	426.2	377.3	362.1
50°	295.2	335.1	385.7	341.9	328.4
52.5°	273.3	313.8	346.9	310.4	298.6
55°	251.9	289.6	311.5	280.0	269.3
57.5°	230.5	266.0	278.9	251.3	242.9
60°	209.2	241.2	248.5	224.9	215.9
62.5°	188.4	218.2	220.4	199.6	191.7
65°	168.1	192.3	192.3	175.4	168.7
67.5°	146.8	167.6	166.4	150.7	146.8
70°	126.0	143.4	141.1	128.2	123.7
72.5°	106.3	119.2	117.5	107.4	102.3
75°	86.0	96.7	95.0	86.0	83.8
77.5°	66.9	74.2	72.5	66.4	64.7
80°	48.4	54.0	53.4	48.9	46.1
82.5°	32.6	35.4	34.9	32.1	30.4
85°	18.6	20.2	19.7	18.0	17.4
87.5°	7.3	8.4	9.0	8.4	7.9
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	18.17	19.78	18.54	20.09	20.40	17.90	19.50	18.26	19.82	20.13
	3H	19.74	21.19	20.12	21.52	21.88	19.41	20.86	19.79	21.19	21.55
	4H	20.29	21.65	20.69	22.00	22.38	19.95	21.31	20.35	21.66	22.03
	6H	20.66	21.92	21.07	22.28	22.67	20.31	21.57	20.72	21.93	22.32
	8H	20.76	21.96	21.18	22.35	22.75	20.40	21.60	20.83	21.99	22.39
	12H	20.81	21.96	21.24	22.34	22.77	20.45	21.60	20.88	21.98	22.41
4H	2H	18.81	20.17	19.21	20.52	20.89	18.60	19.96	18.99	20.30	20.68
	3H	20.62	21.75	21.03	22.15	22.55	20.31	21.45	20.72	21.84	22.24
	4H	21.31	22.33	21.74	22.74	23.18	20.95	21.97	21.38	22.39	22.82
	6H	21.79	22.68	22.24	23.12	23.58	21.41	22.30	21.86	22.74	23.20
	8H	21.92	22.75	22.38	23.20	23.66	21.54	22.37	22.00	22.81	23.28
	12H	22.01	22.75	22.49	23.23	23.70	21.62	22.36	22.10	22.84	23.31
8H	4H	21.57	22.40	22.03	22.85	23.31	21.26	22.09	21.72	22.53	23.00
	6H	22.16	22.85	22.66	23.34	23.82	21.82	22.51	22.31	23.00	23.47
	8H	22.35	22.98	22.87	23.48	23.97	22.00	22.62	22.51	23.13	23.61
	12H	22.50	23.05	23.00	23.54	24.10	22.13	22.68	22.63	23.17	23.73
12H	4H	21.59	22.34	22.07	22.81	23.28	21.28	22.03	21.76	22.51	22.98
	6H	22.19	22.82	22.70	23.32	23.81	21.86	22.48	22.37	22.99	23.48
	8H	22.44	22.99	22.94	23.48	24.04	22.09	22.64	22.60	23.13	23.69