

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: P1439826

Luminaire Tested: S123DR-S485D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439826
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-S485D850-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

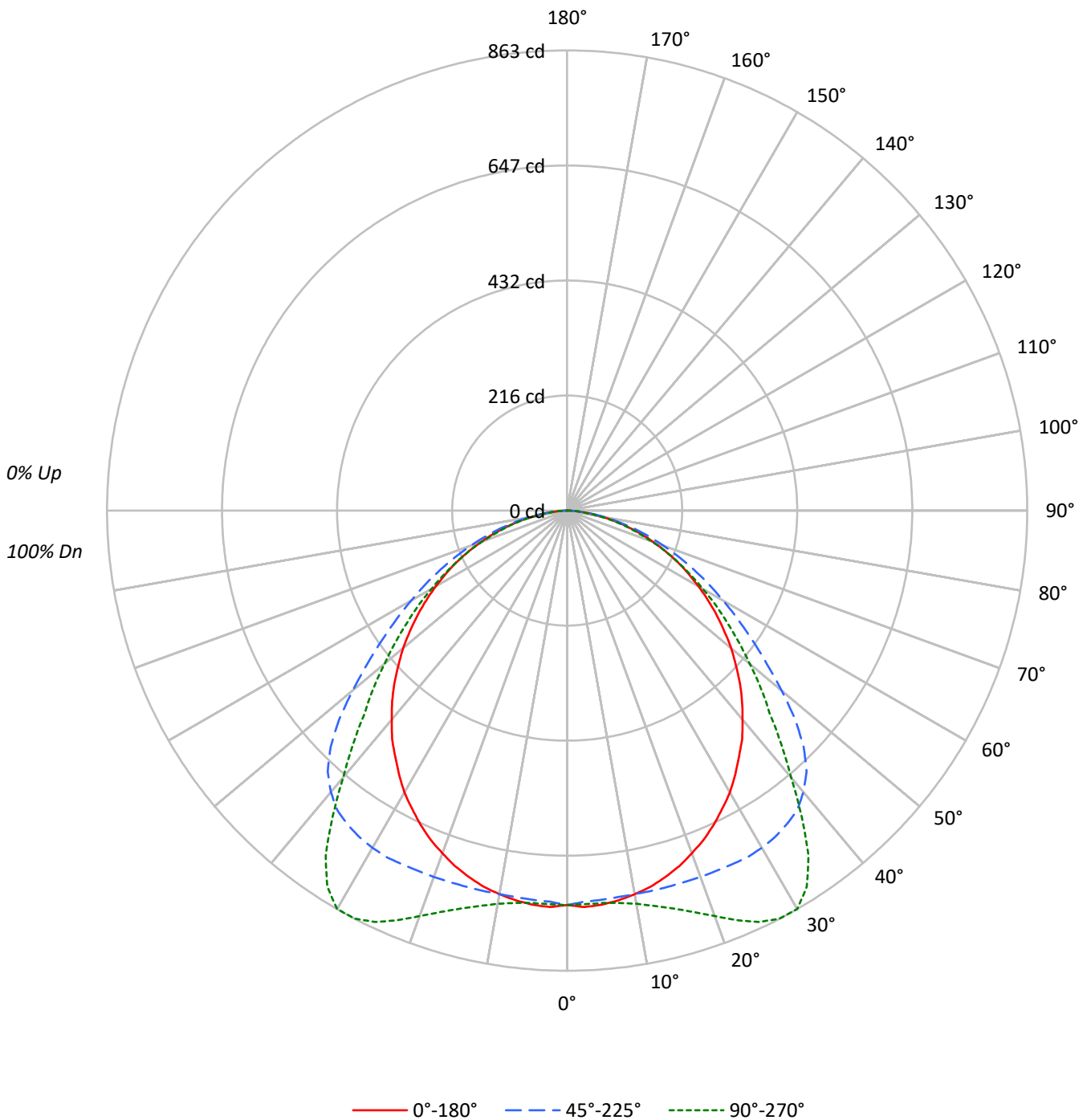
Lumens per Lamp: N/A
Luminaire Lumens: 2237.0 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	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	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71					71			
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60					60			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52					52			
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	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°	8917	8917	8917
5°	8979	8867	8941
10°	8942	8942	9167
15°	8878	9117	9642
20°	8773	9381	10382
25°	8648	9738	11325
30°	8496	10168	12010
35°	8275	10571	11617
40°	8053	10845	10280
45°	7811	10694	9154
50°	7531	9842	8379
55°	7203	8906	7702
60°	6860	8153	7082
65°	6524	7463	6547
70°	6038	6768	5933
75°	5450	6023	5310
80°	4568	5048	4353
85°	3486	3707	3278

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 10694 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.4	3.1
10°-20°	209.3	9.4
20°-30°	343.0	15.3
30°-40°	433.8	19.4
40°-50°	423.9	18.9
50°-60°	348.2	15.6
60°-70°	245.6	11.0
70°-80°	130.9	5.9
80°-90°	31.9	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°	622.7	27.8
0°-40°	1056.5	47.2
0°-60°	1828.6	81.7
0°-90°	2237.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2237.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	740	740	740	740	740	
5°	742	739	733	740	739	70
15°	711	715	730	763	772	201
25°	650	669	732	821	851	299
35°	562	601	718	802	789	352
45°	458	510	627	566	537	353
55°	343	394	424	381	366	307
65°	229	262	262	239	230	226
75°	117	132	129	117	114	124
85°	25	28	27	24	24	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	739.6	739.6	739.6	739.6	739.6
2.5°	744.2	741.9	734.3	741.1	738.8
5°	741.9	738.8	732.7	740.4	738.8
7.5°	737.3	735.8	731.2	742.7	741.9
10°	730.4	729.7	730.4	747.3	748.8
12.5°	722.8	723.5	730.4	754.1	759.5
15°	711.3	715.1	730.4	763.3	772.5
17.5°	699.1	705.2	730.4	775.6	789.3
20°	683.8	694.5	731.2	788.6	809.2
22.5°	668.5	681.5	731.2	806.2	831.4
25°	650.1	669.2	732.0	820.7	851.3
27.5°	630.2	653.2	732.7	832.2	862.7
30°	610.3	637.9	730.4	836.7	862.7
32.5°	586.6	620.3	725.8	829.1	836.7
35°	562.2	601.2	718.2	801.6	789.3
37.5°	539.2	580.5	708.3	751.1	722.0
40°	511.7	558.3	689.1	686.8	653.2
42.5°	485.7	534.6	664.7	621.8	594.3
45°	458.1	510.2	627.2	566.0	536.9
47.5°	429.1	483.4	579.8	513.2	492.6
50°	401.5	455.9	524.7	465.0	446.7
52.5°	371.7	426.8	471.9	422.2	406.1
55°	342.7	393.9	423.7	380.9	366.4
57.5°	313.6	361.8	379.4	341.9	330.4
60°	284.5	328.1	338.1	305.9	293.7
62.5°	256.2	296.8	299.8	271.5	260.8
65°	228.7	261.6	261.6	238.6	229.5
67.5°	199.6	227.9	226.4	205.0	199.6
70°	171.3	195.0	192.0	174.4	168.3
72.5°	144.6	162.1	159.9	146.1	139.2
75°	117.0	131.6	129.3	117.0	114.0
77.5°	91.0	101.0	98.7	90.3	88.0
80°	65.8	73.4	72.7	66.5	62.7
82.5°	44.4	48.2	47.4	43.6	41.3
85°	25.2	27.5	26.8	24.5	23.7
87.5°	9.9	11.5	12.2	11.5	10.7
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	19.24	20.84	19.60	21.16	21.47	18.97	20.57	19.33	20.89	21.20
	3H	20.81	22.26	21.19	22.58	22.94	20.48	21.93	20.86	22.26	22.62
	4H	21.36	22.72	21.76	23.07	23.45	21.02	22.38	21.42	22.73	23.10
	6H	21.73	22.98	22.14	23.35	23.74	21.38	22.63	21.79	23.00	23.39
	8H	21.83	23.03	22.25	23.42	23.81	21.47	22.67	21.89	23.06	23.46
	12H	21.88	23.03	22.31	23.41	23.84	21.52	22.67	21.95	23.05	23.48
4H	2H	19.88	21.24	20.28	21.59	21.96	19.67	21.03	20.06	21.37	21.75
	3H	21.69	22.82	22.10	23.22	23.62	21.38	22.52	21.79	22.91	23.31
	4H	22.37	23.40	22.81	23.81	24.25	22.02	23.04	22.45	23.46	23.89
	6H	22.86	23.75	23.31	24.19	24.65	22.48	23.37	22.93	23.81	24.27
	8H	22.99	23.82	23.45	24.27	24.73	22.60	23.44	23.07	23.88	24.35
	12H	23.07	23.82	23.55	24.30	24.77	22.68	23.43	23.17	23.91	24.38
8H	4H	22.64	23.47	23.10	23.92	24.38	22.33	23.16	22.79	23.60	24.07
	6H	23.23	23.92	23.72	24.41	24.89	22.89	23.58	23.38	24.07	24.54
	8H	23.42	24.05	23.93	24.55	25.04	23.07	23.69	23.58	24.19	24.68
	12H	23.56	24.11	24.07	24.61	25.17	23.20	23.75	23.70	24.24	24.80
12H	4H	22.66	23.40	23.14	23.88	24.35	22.35	23.10	22.83	23.58	24.05
	6H	23.26	23.88	23.77	24.39	24.88	22.93	23.55	23.44	24.06	24.55
	8H	23.51	24.06	24.01	24.55	25.11	23.16	23.71	23.67	24.20	24.76