

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: P1439786

Luminaire Tested: S123DR-H485D950-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439786
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-H485D950-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

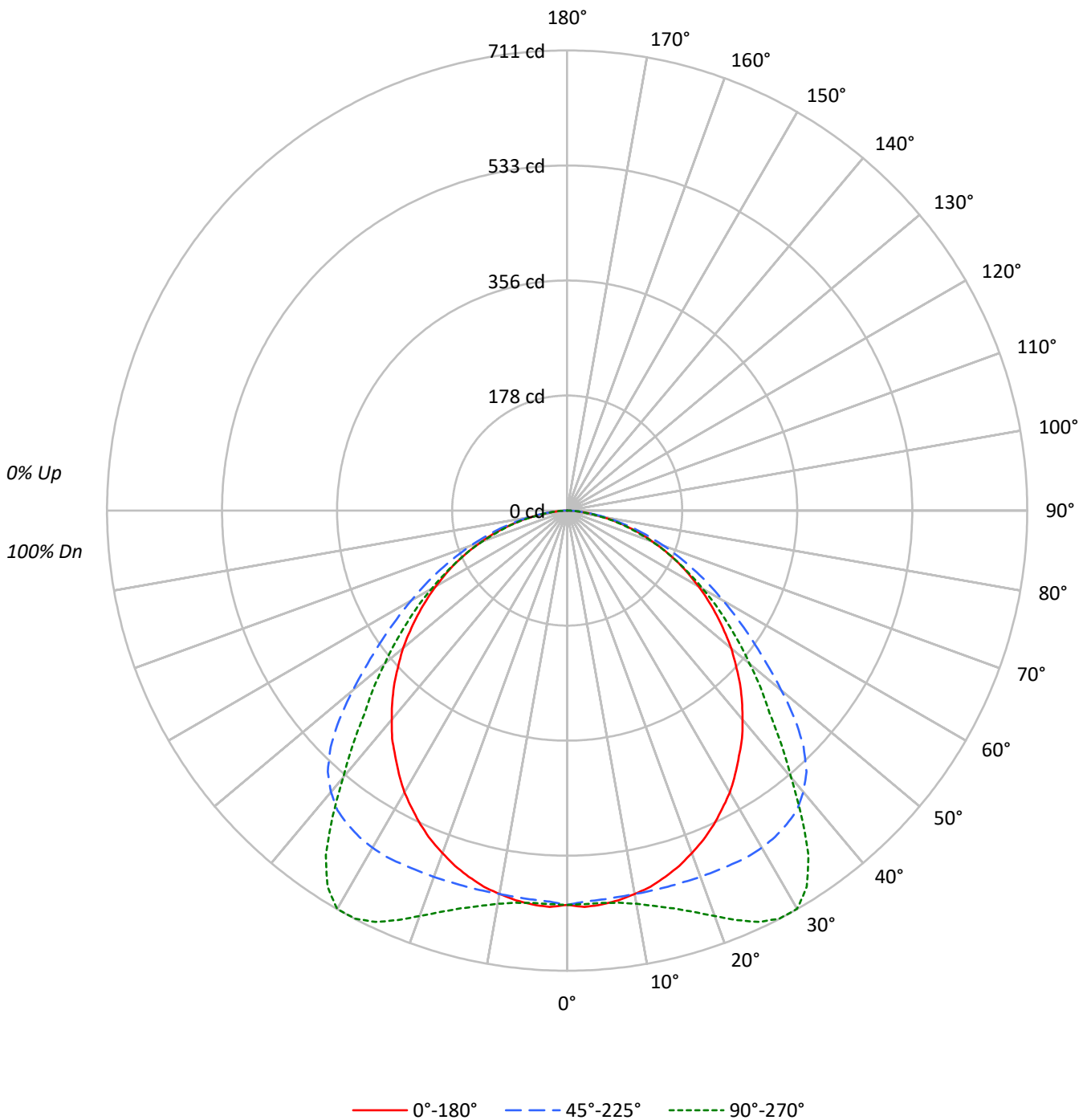
Lumens per Lamp: N/A
Luminaire Lumens: 1842.6 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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°	7345	7345	7345
5°	7396	7304	7366
10°	7365	7365	7551
15°	7313	7509	7942
20°	7226	7728	8551
25°	7124	8020	9328
30°	6998	8375	9893
35°	6815	8707	9568
40°	6634	8933	8467
45°	6435	8808	7540
50°	6203	8107	6900
55°	5932	7336	6344
60°	5652	6715	5833
65°	5375	6148	5392
70°	4974	5573	4886
75°	4491	4961	4374
80°	3763	4152	3590
85°	2877	3043	2697

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 8808 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.0	3.1
10°-20°	172.4	9.4
20°-30°	282.5	15.3
30°-40°	357.3	19.4
40°-50°	349.1	18.9
50°-60°	286.8	15.6
60°-70°	202.3	11.0
70°-80°	107.8	5.9
80°-90°	26.3	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°	512.9	27.8
0°-40°	870.2	47.2
0°-60°	1506.2	81.7
0°-90°	1842.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1842.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	609	609	609	609	609	
5°	611	609	604	610	609	58
15°	586	589	602	629	636	165
25°	536	551	603	676	701	247
35°	463	495	592	660	650	290
45°	377	420	517	466	442	291
55°	282	324	349	314	302	252
65°	188	216	216	197	189	186
75°	96	108	106	96	94	102
85°	21	23	22	20	20	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	609.2	609.2	609.2	609.2	609.2
2.5°	613.0	611.1	604.8	610.5	608.6
5°	611.1	608.6	603.5	609.8	608.6
7.5°	607.3	606.0	602.3	611.7	611.1
10°	601.6	601.0	601.6	615.5	616.8
12.5°	595.3	596.0	601.6	621.2	625.6
15°	585.9	589.0	601.6	628.7	636.3
17.5°	575.8	580.8	601.6	638.8	650.1
20°	563.2	572.0	602.3	649.5	666.5
22.5°	550.6	561.3	602.3	664.0	684.8
25°	535.5	551.2	602.9	676.0	701.2
27.5°	519.1	538.0	603.5	685.4	710.6
30°	502.7	525.4	601.6	689.2	710.6
32.5°	483.2	510.9	597.9	682.9	689.2
35°	463.0	495.2	591.6	660.2	650.1
37.5°	444.1	478.2	583.4	618.6	594.7
40°	421.5	459.9	567.6	565.7	538.0
42.5°	400.0	440.4	547.5	512.2	489.5
45°	377.4	420.2	516.6	466.2	442.2
47.5°	353.4	398.2	477.5	422.7	405.7
50°	330.7	375.5	432.2	383.0	367.9
52.5°	306.2	351.5	388.7	347.8	334.5
55°	282.2	324.4	349.0	313.7	301.8
57.5°	258.3	298.0	312.5	281.6	272.2
60°	234.4	270.3	278.5	252.0	241.9
62.5°	211.0	244.4	247.0	223.6	214.8
65°	188.4	215.5	215.5	196.6	189.0
67.5°	164.4	187.7	186.5	168.8	164.4
70°	141.1	160.6	158.1	143.6	138.6
72.5°	119.1	133.6	131.7	120.3	114.7
75°	96.4	108.4	106.5	96.4	93.9
77.5°	75.0	83.2	81.3	74.3	72.4
80°	54.2	60.5	59.8	54.8	51.7
82.5°	36.5	39.7	39.1	35.9	34.0
85°	20.8	22.7	22.0	20.2	19.5
87.5°	8.2	9.4	10.1	9.4	8.8
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	18.57	20.17	18.93	20.49	20.80	18.29	19.90	18.66	20.21	20.53
	3H	20.14	21.58	20.51	21.91	22.27	19.81	21.25	20.18	21.58	21.94
	4H	20.69	22.05	21.09	22.40	22.77	20.34	21.70	20.74	22.05	22.43
	6H	21.05	22.31	21.46	22.68	23.07	20.70	21.96	21.11	22.32	22.72
	8H	21.15	22.35	21.58	22.74	23.14	20.80	22.00	21.22	22.39	22.78
	12H	21.21	22.36	21.64	22.74	23.17	20.85	22.00	21.28	22.38	22.81
4H	2H	19.21	20.57	19.60	20.91	21.29	18.99	20.35	19.39	20.70	21.08
	3H	21.01	22.15	21.42	22.54	22.94	20.71	21.84	21.12	22.24	22.64
	4H	21.70	22.72	22.13	23.14	23.57	21.34	22.37	21.78	22.78	23.22
	6H	22.18	23.07	22.64	23.52	23.97	21.80	22.70	22.26	23.14	23.59
	8H	22.32	23.15	22.78	23.59	24.06	21.93	22.77	22.39	23.21	23.67
	12H	22.40	23.15	22.88	23.63	24.10	22.01	22.76	22.49	23.24	23.71
8H	4H	21.97	22.80	22.43	23.24	23.71	21.65	22.49	22.11	22.93	23.40
	6H	22.56	23.25	23.05	23.74	24.21	22.21	22.90	22.71	23.39	23.87
	8H	22.75	23.37	23.26	23.88	24.37	22.39	23.01	22.90	23.52	24.01
	12H	22.89	23.44	23.40	23.93	24.49	22.52	23.07	23.03	23.56	24.12
12H	4H	21.98	22.73	22.46	23.21	23.68	21.68	22.43	22.16	22.90	23.37
	6H	22.59	23.21	23.10	23.72	24.20	22.26	22.88	22.77	23.39	23.87
	8H	22.83	23.38	23.34	23.87	24.43	22.49	23.04	22.99	23.53	24.09