

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: P1439960

Luminaire Tested: S124DR-S485D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439960
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-S485D840-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

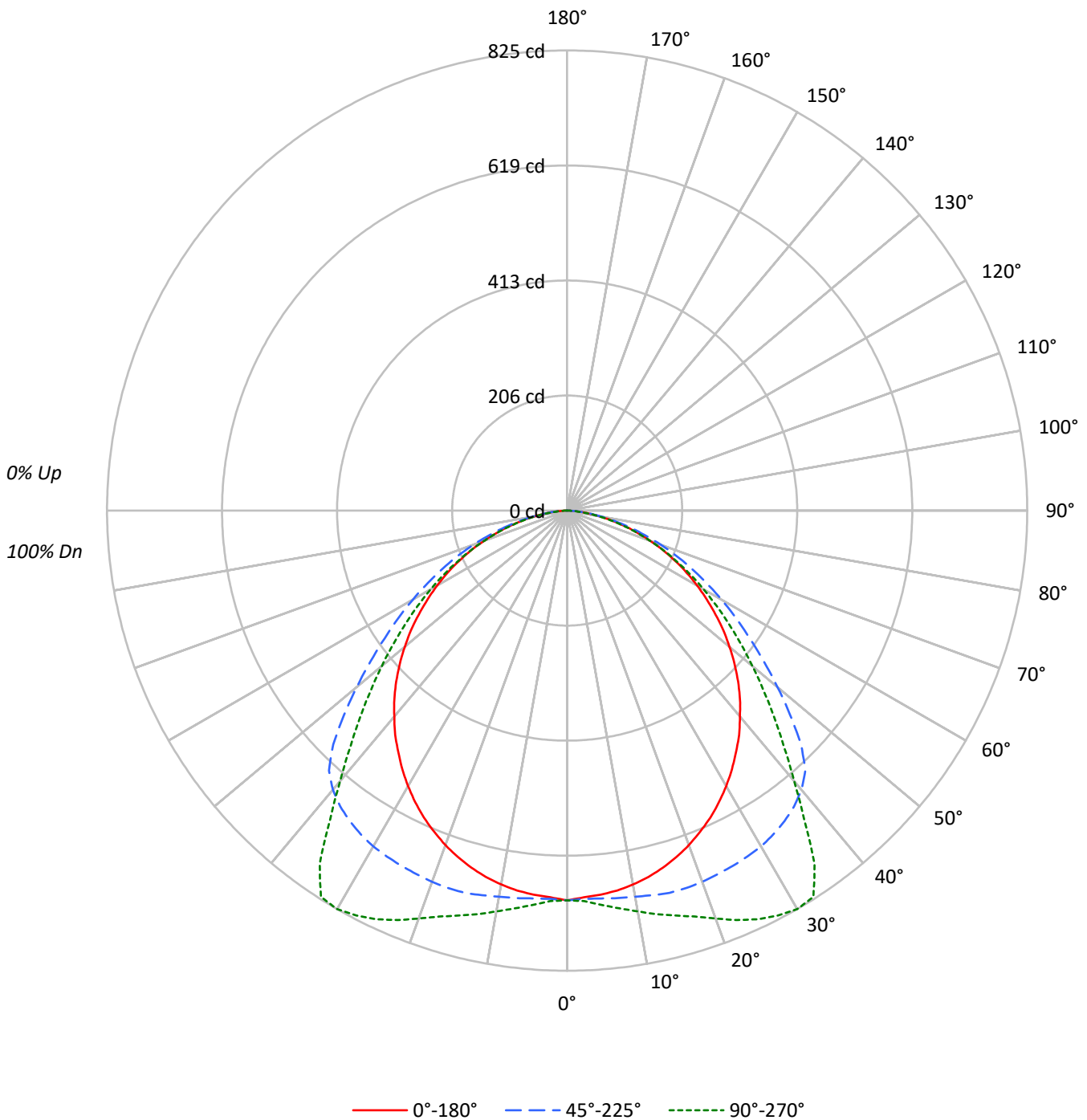
Lumens per Lamp: N/A
Luminaire Lumens: 2123.3 lumens
Efficiency: N/A
Efficacy: 111.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	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°	6177	6177	6177
5°	6134	6195	6298
10°	6112	6310	6549
15°	6069	6495	6878
20°	6006	6664	7322
25°	5926	6856	7886
30°	5823	7097	8421
35°	5698	7334	8348
40°	5563	7541	7304
45°	5418	7416	6567
50°	5224	6771	5970
55°	5010	6161	5454
60°	4766	5650	4995
65°	4475	5149	4561
70°	4095	4609	4077
75°	3607	3959	3536
80°	2968	3177	2861
85°	2090	2161	1948

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 7416 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.0	3.2
10°-20°	200.9	9.5
20°-30°	327.0	15.4
30°-40°	415.3	19.6
40°-50°	404.7	19.1
50°-60°	331.8	15.6
60°-70°	231.5	10.9
70°-80°	118.8	5.6
80°-90°	26.3	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°	594.9	28.0
0°-40°	1010.2	47.6
0°-60°	1746.6	82.3
0°-90°	2123.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2123.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	699	699	699	699	699	
5°	691	701	698	703	710	66
15°	663	684	710	738	751	187
25°	608	646	703	775	808	280
35°	528	579	680	778	773	330
45°	433	487	593	544	525	334
55°	325	375	400	366	354	291
65°	214	245	246	226	218	212
75°	106	117	116	108	104	112
85°	21	21	21	20	19	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	698.7	698.7	698.7	698.7	698.7
2.5°	693.9	702.8	696.6	699.3	700.7
5°	691.1	701.4	698.0	702.8	709.6
7.5°	687.0	698.7	700.7	710.3	719.2
10°	680.8	694.5	702.8	719.2	729.5
12.5°	672.6	689.7	706.2	728.8	741.2
15°	663.0	683.6	709.6	737.7	751.4
17.5°	651.3	676.0	709.6	744.6	763.1
20°	638.3	667.1	708.3	753.5	778.2
22.5°	623.2	657.5	705.5	763.8	794.6
25°	607.5	646.5	702.8	775.4	808.4
27.5°	589.6	633.5	699.3	784.4	818.6
30°	570.4	617.7	695.2	788.5	824.8
32.5°	549.9	599.2	688.4	788.5	821.4
35°	527.9	579.4	679.5	778.2	773.4
37.5°	506.7	558.1	668.5	728.1	698.0
40°	482.0	535.5	653.4	657.5	632.8
42.5°	458.7	511.5	632.1	597.9	575.9
45°	433.3	486.8	593.1	543.7	525.2
47.5°	407.3	460.1	542.3	495.0	477.9
50°	379.8	433.3	492.3	449.1	434.0
52.5°	353.1	404.5	444.3	406.6	392.2
55°	325.0	375.0	399.7	366.1	353.8
57.5°	296.9	344.9	359.3	328.4	316.8
60°	269.5	312.6	319.5	292.8	282.5
62.5°	242.0	279.0	281.8	258.5	249.6
65°	213.9	244.8	246.1	226.3	218.0
67.5°	186.5	211.9	211.9	194.7	187.9
70°	158.4	179.6	178.3	164.5	157.7
72.5°	131.6	146.7	145.4	135.1	130.3
75°	105.6	117.2	115.9	107.6	103.5
77.5°	80.9	89.1	87.8	82.3	78.8
80°	58.3	63.1	62.4	58.3	56.2
82.5°	38.4	41.1	39.8	37.0	35.7
85°	20.6	21.3	21.3	19.9	19.2
87.5°	7.5	7.5	7.5	7.5	6.9
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	18.01	19.61	18.38	19.92	20.24	17.79	19.39	18.16	19.71	20.02
	3H	19.51	20.95	19.89	21.28	21.64	19.27	20.71	19.64	21.03	21.39
	4H	20.02	21.37	20.42	21.72	22.09	19.76	21.11	20.16	21.46	21.84
	6H	20.34	21.59	20.75	21.95	22.35	20.08	21.33	20.49	21.70	22.09
	8H	20.42	21.61	20.85	22.00	22.40	20.15	21.35	20.58	21.74	22.14
	12H	20.46	21.60	20.89	21.98	22.41	20.19	21.33	20.62	21.71	22.14
4H	2H	18.63	19.99	19.03	20.33	20.71	18.46	19.82	18.86	20.16	20.54
	3H	20.36	21.49	20.77	21.89	22.29	20.13	21.26	20.54	21.66	22.06
	4H	20.99	22.01	21.42	22.42	22.86	20.73	21.74	21.16	22.16	22.59
	6H	21.42	22.30	21.87	22.74	23.20	21.14	22.03	21.59	22.47	22.92
	8H	21.53	22.36	21.99	22.80	23.27	21.24	22.07	21.70	22.51	22.98
	12H	21.60	22.34	22.08	22.81	23.28	21.30	22.04	21.78	22.52	22.99
8H	4H	21.23	22.06	21.69	22.50	22.97	21.00	21.83	21.46	22.27	22.74
	6H	21.76	22.44	22.25	22.93	23.41	21.50	22.19	21.99	22.68	23.15
	8H	21.92	22.54	22.43	23.04	23.53	21.65	22.26	22.16	22.77	23.26
	12H	22.03	22.57	22.54	23.06	23.63	21.75	22.29	22.26	22.78	23.34
12H	4H	21.24	21.99	21.72	22.46	22.93	21.02	21.76	21.50	22.24	22.71
	6H	21.78	22.39	22.29	22.90	23.39	21.53	22.15	22.04	22.65	23.14
	8H	21.99	22.53	22.49	23.02	23.58	21.72	22.27	22.23	22.76	23.32