

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: P1439830

Luminaire Tested: S123DR-S485D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439830
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-S485D940-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

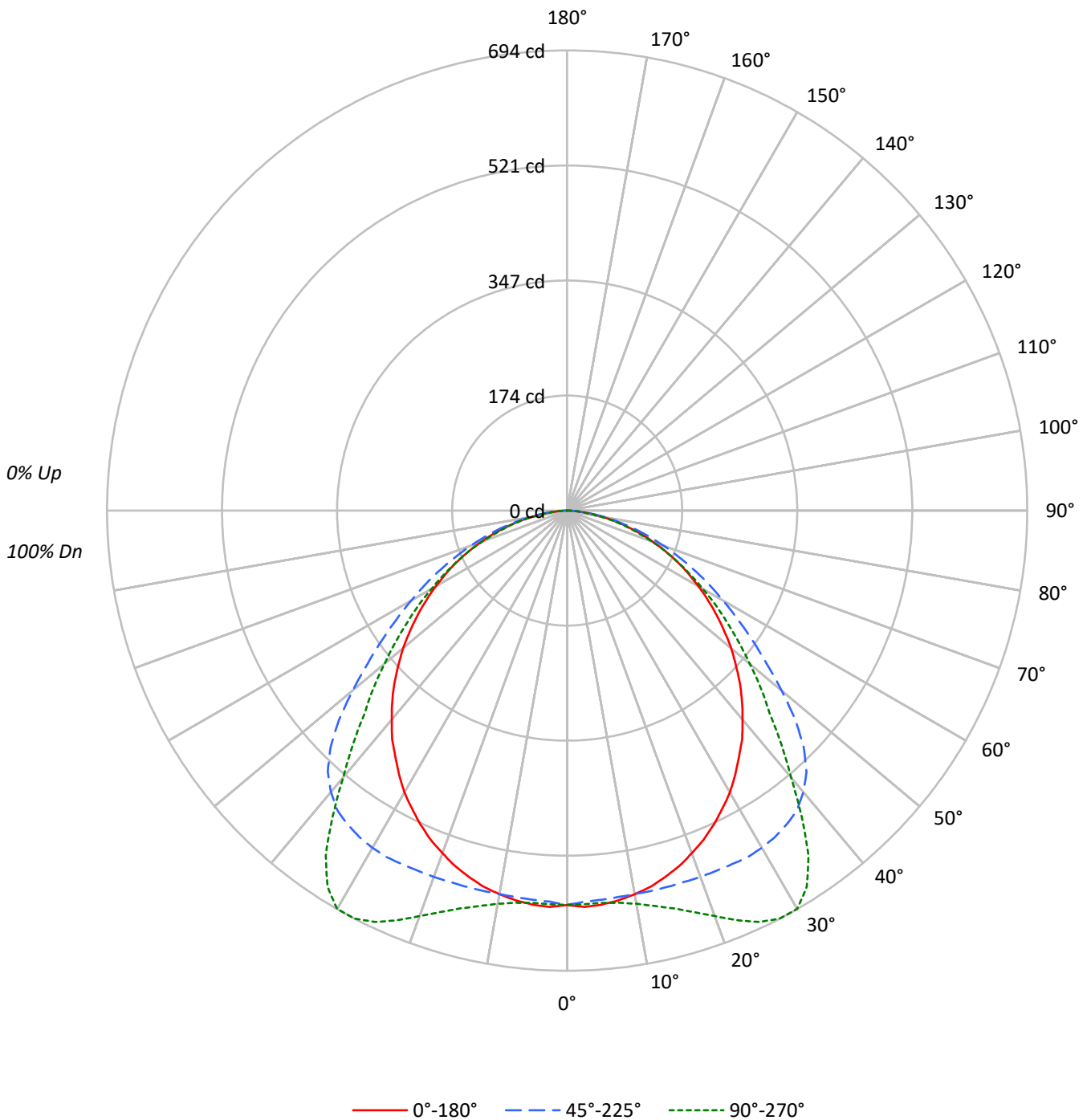
Lumens per Lamp: N/A
Luminaire Lumens: 1798.7 lumens
Efficiency: N/A
Efficacy: 94.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
Input Voltage (V): 120
Input Current (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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7170	7170	7170
5°	7219	7131	7190
10°	7190	7190	7371
15°	7138	7331	7752
20°	7054	7543	8349
25°	6953	7829	9106
30°	6833	8176	9657
35°	6653	8500	9342
40°	6475	8721	8266
45°	6281	8598	7361
50°	6056	7913	6737
55°	5791	7161	6192
60°	5517	6554	5695
65°	5246	5999	5263
70°	4858	5443	4769
75°	4383	4840	4267
80°	3673	4055	3499
85°	2808	2974	2642

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 8598 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.6	3.1
10°-20°	168.3	9.4
20°-30°	275.8	15.3
30°-40°	348.8	19.4
40°-50°	340.8	18.9
50°-60°	280.0	15.6
60°-70°	197.5	11.0
70°-80°	105.3	5.9
80°-90°	25.6	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°	500.7	27.8
0°-40°	849.5	47.2
0°-60°	1470.3	81.7
0°-90°	1798.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1798.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	595	595	595	595	595	
5°	596	594	589	595	594	57
15°	572	575	587	614	621	161
25°	523	538	588	660	684	241
35°	452	483	578	644	635	283
45°	368	410	504	455	432	284
55°	276	317	341	306	295	246
65°	184	210	210	192	184	181
75°	94	106	104	94	92	100
85°	20	22	22	20	19	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	594.7	594.7	594.7	594.7	594.7
2.5°	598.4	596.5	590.4	595.9	594.1
5°	596.5	594.1	589.2	595.3	594.1
7.5°	592.9	591.6	587.9	597.2	596.5
10°	587.3	586.7	587.3	600.8	602.1
12.5°	581.2	581.8	587.3	606.4	610.7
15°	571.9	575.0	587.3	613.8	621.1
17.5°	562.1	567.0	587.3	623.6	634.7
20°	549.8	558.4	587.9	634.1	650.7
22.5°	537.5	548.0	587.9	648.2	668.5
25°	522.7	538.1	588.5	659.9	684.5
27.5°	506.8	525.2	589.2	669.1	693.7
30°	490.8	512.9	587.3	672.8	693.7
32.5°	471.7	498.8	583.6	666.6	672.8
35°	452.0	483.4	577.5	644.5	634.7
37.5°	433.6	466.8	569.5	603.9	580.6
40°	411.4	448.9	554.1	552.3	525.2
42.5°	390.5	429.9	534.4	500.0	477.8
45°	368.4	410.2	504.3	455.1	431.7
47.5°	345.0	388.7	466.2	412.7	396.1
50°	322.9	366.5	421.9	373.9	359.2
52.5°	298.9	343.2	379.4	339.5	326.6
55°	275.5	316.7	340.7	306.3	294.6
57.5°	252.1	290.9	305.0	274.9	265.7
60°	228.8	263.8	271.8	246.0	236.2
62.5°	206.0	238.6	241.1	218.3	209.7
65°	183.9	210.3	210.3	191.9	184.5
67.5°	160.5	183.3	182.0	164.8	160.5
70°	137.8	156.8	154.4	140.2	135.3
72.5°	116.2	130.4	128.5	117.5	111.9
75°	94.1	105.8	103.9	94.1	91.6
77.5°	73.2	81.2	79.3	72.6	70.7
80°	52.9	59.0	58.4	53.5	50.4
82.5°	35.7	38.7	38.1	35.1	33.2
85°	20.3	22.1	21.5	19.7	19.1
87.5°	8.0	9.2	9.8	9.2	8.6
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	18.48	20.09	18.85	20.40	20.72	18.21	19.81	18.57	20.13	20.44
	3H	20.05	21.50	20.43	21.83	22.19	19.72	21.17	20.10	21.50	21.86
	4H	20.60	21.96	21.00	22.31	22.69	20.26	21.62	20.66	21.97	22.34
	6H	20.97	22.23	21.38	22.59	22.98	20.62	21.88	21.03	22.24	22.63
	8H	21.07	22.27	21.49	22.66	23.06	20.71	21.91	21.14	22.30	22.70
	12H	21.12	22.27	21.55	22.65	23.08	20.76	21.91	21.19	22.29	22.72
4H	2H	19.12	20.48	19.52	20.83	21.20	18.91	20.27	19.31	20.62	20.99
	3H	20.93	22.06	21.34	22.46	22.86	20.62	21.76	21.03	22.16	22.56
	4H	21.62	22.64	22.05	23.05	23.49	21.26	22.28	21.69	22.70	23.14
	6H	22.10	22.99	22.55	23.43	23.89	21.72	22.61	22.18	23.05	23.51
	8H	22.23	23.07	22.69	23.51	23.97	21.85	22.68	22.31	23.12	23.59
	12H	22.32	23.06	22.80	23.54	24.01	21.93	22.68	22.41	23.15	23.62
8H	4H	21.88	22.72	22.34	23.16	23.62	21.57	22.40	22.03	22.85	23.31
	6H	22.47	23.16	22.97	23.65	24.13	22.13	22.82	22.62	23.31	23.79
	8H	22.67	23.29	23.18	23.79	24.28	22.31	22.93	22.82	23.44	23.92
	12H	22.81	23.36	23.31	23.85	24.41	22.44	22.99	22.94	23.48	24.04
12H	4H	21.90	22.65	22.38	23.12	23.59	21.59	22.34	22.08	22.82	23.29
	6H	22.50	23.13	23.01	23.63	24.12	22.17	22.80	22.68	23.30	23.79
	8H	22.75	23.30	23.25	23.79	24.35	22.40	22.95	22.91	23.44	24.00