

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: P1439785

Luminaire Tested: S123DR-H485D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439785
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-H485D940-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

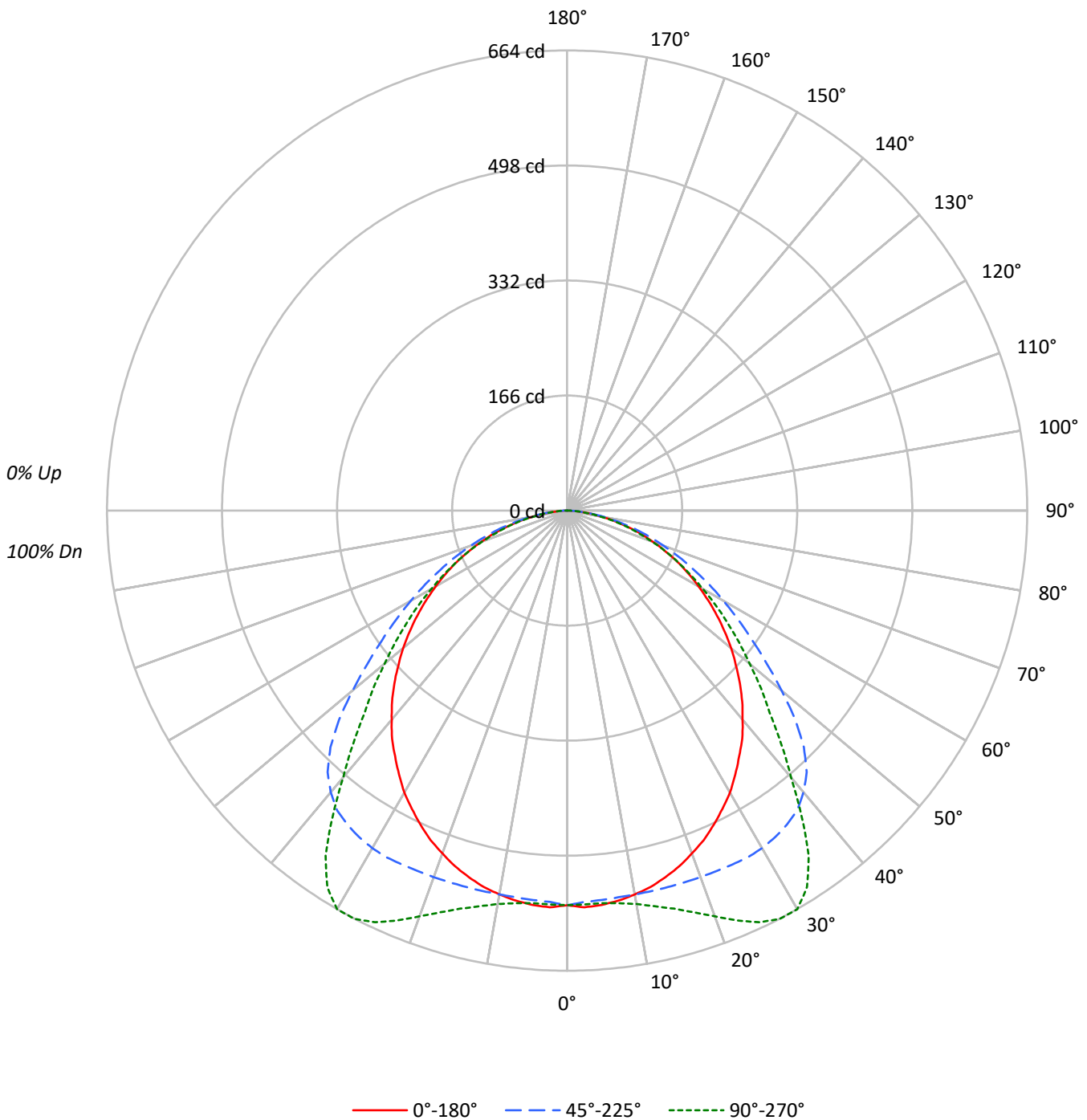
Lumens per Lamp: N/A
Luminaire Lumens: 1722.3 lumens
Efficiency: N/A
Efficacy: 99.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
Input Voltage (V): 120
Input Current (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	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°	6865	6865	6865
5°	6913	6827	6884
10°	6885	6885	7058
15°	6835	7020	7423
20°	6754	7222	7993
25°	6658	7496	8719
30°	6542	7829	9247
35°	6370	8138	8944
40°	6199	8351	7915
45°	6014	8234	7049
50°	5798	7578	6450
55°	5545	6857	5930
60°	5283	6277	5452
65°	5024	5746	5041
70°	4650	5210	4565
75°	4197	4635	4085
80°	3513	3881	3353
85°	2684	2850	2531

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 8234 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.2	3.1
10°-20°	161.1	9.4
20°-30°	264.0	15.3
30°-40°	334.0	19.4
40°-50°	326.3	18.9
50°-60°	268.1	15.6
60°-70°	189.1	11.0
70°-80°	100.8	5.9
80°-90°	24.6	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°	479.4	27.8
0°-40°	813.4	47.2
0°-60°	1407.8	81.7
0°-90°	1722.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1722.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	569	569	569	569	569	
5°	571	569	564	570	569	54
15°	548	551	562	588	595	154
25°	500	515	564	632	655	230
35°	433	463	553	617	608	271
45°	353	393	483	436	413	272
55°	264	303	326	293	282	236
65°	176	201	201	184	177	174
75°	90	101	100	90	88	96
85°	19	21	21	19	18	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	569.4	569.4	569.4	569.4	569.4
2.5°	573.0	571.2	565.3	570.6	568.8
5°	571.2	568.8	564.1	570.0	568.8
7.5°	567.7	566.5	562.9	571.8	571.2
10°	562.4	561.8	562.4	575.3	576.5
12.5°	556.5	557.1	562.4	580.6	584.7
15°	547.6	550.6	562.4	587.7	594.7
17.5°	538.2	542.9	562.4	597.1	607.7
20°	526.4	534.7	562.9	607.1	623.0
22.5°	514.7	524.7	562.9	620.6	640.1
25°	500.5	515.2	563.5	631.8	655.4
27.5°	485.2	502.9	564.1	640.7	664.2
30°	469.9	491.1	562.4	644.2	664.2
32.5°	451.6	477.6	558.8	638.3	644.2
35°	432.8	462.8	552.9	617.1	607.7
37.5°	415.1	446.9	545.3	578.3	555.9
40°	393.9	429.9	530.6	528.8	502.9
42.5°	373.9	411.6	511.7	478.7	457.5
45°	352.7	392.8	482.9	435.8	413.4
47.5°	330.3	372.2	446.3	395.1	379.2
50°	309.1	351.0	404.0	358.0	343.9
52.5°	286.2	328.6	363.3	325.0	312.7
55°	263.8	303.3	326.2	293.2	282.1
57.5°	241.4	278.5	292.1	263.2	254.4
60°	219.1	252.6	260.3	235.5	226.1
62.5°	197.3	228.5	230.8	209.0	200.8
65°	176.1	201.4	201.4	183.7	176.7
67.5°	153.7	175.5	174.3	157.8	153.7
70°	131.9	150.2	147.8	134.3	129.5
72.5°	111.3	124.8	123.1	112.5	107.2
75°	90.1	101.3	99.5	90.1	87.7
77.5°	70.1	77.7	76.0	69.5	67.7
80°	50.6	56.5	55.9	51.2	48.3
82.5°	34.2	37.1	36.5	33.6	31.8
85°	19.4	21.2	20.6	18.8	18.3
87.5°	7.7	8.8	9.4	8.8	8.2
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	18.33	19.94	18.70	20.25	20.56	18.06	19.66	18.42	19.98	20.29
	3H	19.90	21.35	20.28	21.67	22.03	19.57	21.02	19.95	21.35	21.71
	4H	20.45	21.81	20.85	22.16	22.54	20.11	21.47	20.51	21.82	22.19
	6H	20.82	22.08	21.23	22.44	22.83	20.47	21.73	20.88	22.09	22.48
	8H	20.92	22.12	21.34	22.51	22.91	20.56	21.76	20.99	22.15	22.55
	12H	20.97	22.12	21.40	22.50	22.93	20.61	21.76	21.04	22.14	22.57
4H	2H	18.97	20.33	19.37	20.68	21.05	18.76	20.12	19.16	20.46	20.84
	3H	20.78	21.91	21.19	22.31	22.71	20.47	21.61	20.88	22.01	22.41
	4H	21.47	22.49	21.90	22.90	23.34	21.11	22.13	21.54	22.55	22.98
	6H	21.95	22.84	22.40	23.28	23.74	21.57	22.46	22.02	22.90	23.36
	8H	22.08	22.91	22.54	23.36	23.82	21.70	22.53	22.16	22.97	23.44
	12H	22.17	22.91	22.65	23.39	23.86	21.78	22.53	22.26	23.00	23.47
8H	4H	21.73	22.57	22.19	23.01	23.47	21.42	22.25	21.88	22.69	23.16
	6H	22.32	23.01	22.82	23.50	23.98	21.98	22.67	22.47	23.16	23.63
	8H	22.51	23.14	23.03	23.64	24.13	22.16	22.78	22.67	23.29	23.77
	12H	22.66	23.21	23.16	23.70	24.26	22.29	22.84	22.79	23.33	23.89
12H	4H	21.75	22.50	22.23	22.97	23.44	21.44	22.19	21.92	22.67	23.14
	6H	22.35	22.98	22.86	23.48	23.97	22.02	22.64	22.53	23.15	23.64
	8H	22.60	23.15	23.10	23.64	24.20	22.25	22.80	22.76	23.29	23.85