

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: P1439784

Luminaire Tested: S123DR-H485D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439784
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-H485D935-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

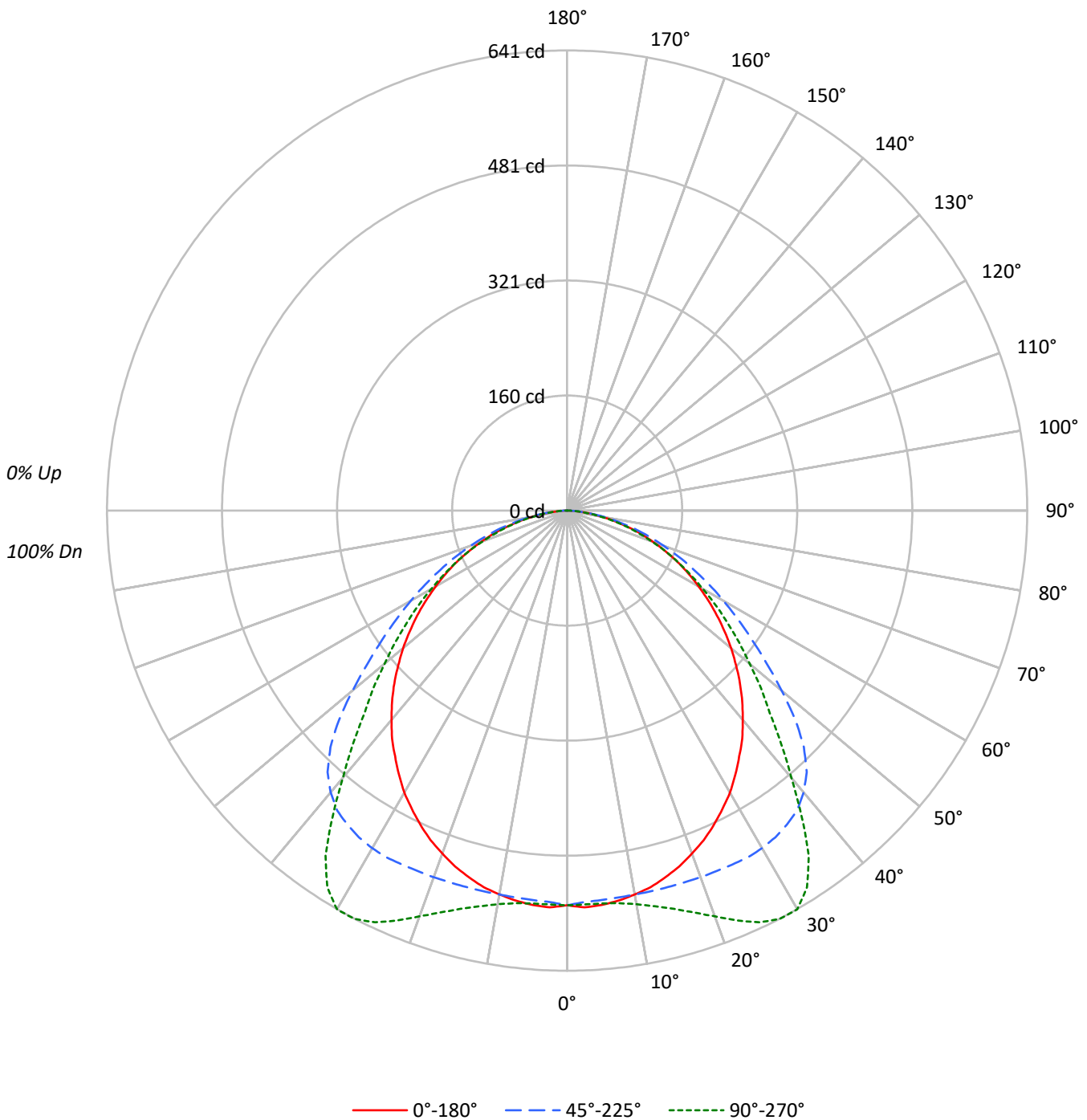
Lumens per Lamp: N/A
Luminaire Lumens: 1662.9 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	6629	6629	6629
5°	6675	6592	6647
10°	6648	6648	6814
15°	6600	6778	7168
20°	6522	6974	7717
25°	6429	7238	8418
30°	6316	7559	8928
35°	6151	7858	8637
40°	5987	8063	7643
45°	5807	7949	6805
50°	5599	7315	6227
55°	5354	6621	5724
60°	5100	6060	5264
65°	4850	5549	4867
70°	4491	5030	4410
75°	4053	4477	3946
80°	3395	3749	3235
85°	2601	2753	2435

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 7949 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.4	3.1
10°-20°	155.6	9.4
20°-30°	255.0	15.3
30°-40°	322.5	19.4
40°-50°	315.1	18.9
50°-60°	258.8	15.6
60°-70°	182.6	11.0
70°-80°	97.3	5.9
80°-90°	23.7	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°	462.9	27.8
0°-40°	785.4	47.2
0°-60°	1359.3	81.7
0°-90°	1662.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1662.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	550	550	550	550	550	
5°	552	549	545	550	549	52
15°	529	532	543	567	574	149
25°	483	498	544	610	633	223
35°	418	447	534	596	587	262
45°	341	379	466	421	399	262
55°	255	293	315	283	272	228
65°	170	194	194	177	171	168
75°	87	98	96	87	85	92
85°	19	20	20	18	18	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	549.8	549.8	549.8	549.8	549.8
2.5°	553.2	551.5	545.8	550.9	549.2
5°	551.5	549.2	544.7	550.4	549.2
7.5°	548.1	547.0	543.6	552.1	551.5
10°	543.0	542.4	543.0	555.5	556.6
12.5°	537.3	537.9	543.0	560.6	564.6
15°	528.8	531.6	543.0	567.4	574.3
17.5°	519.7	524.2	543.0	576.5	586.8
20°	508.3	516.3	543.6	586.2	601.5
22.5°	496.9	506.6	543.6	599.3	618.0
25°	483.3	497.5	544.1	610.1	632.8
27.5°	468.5	485.6	544.7	618.6	641.3
30°	453.7	474.2	543.0	622.0	641.3
32.5°	436.1	461.1	539.6	616.3	622.0
35°	417.9	446.9	533.9	595.9	586.8
37.5°	400.8	431.5	526.5	558.3	536.7
40°	380.4	415.1	512.3	510.6	485.6
42.5°	361.0	397.4	494.1	462.2	441.8
45°	340.6	379.2	466.2	420.7	399.1
47.5°	319.0	359.3	431.0	381.5	366.2
50°	298.5	338.9	390.0	345.7	332.0
52.5°	276.3	317.3	350.8	313.9	301.9
55°	254.7	292.8	315.0	283.1	272.3
57.5°	233.1	268.9	282.0	254.2	245.6
60°	211.5	243.9	251.3	227.4	218.3
62.5°	190.5	220.6	222.9	201.8	193.9
65°	170.0	194.5	194.5	177.4	170.6
67.5°	148.4	169.4	168.3	152.4	148.4
70°	127.4	145.0	142.7	129.6	125.1
72.5°	107.5	120.5	118.8	108.6	103.5
75°	87.0	97.8	96.1	87.0	84.7
77.5°	67.7	75.1	73.3	67.1	65.4
80°	48.9	54.6	54.0	49.5	46.6
82.5°	33.0	35.8	35.3	32.4	30.7
85°	18.8	20.5	19.9	18.2	17.6
87.5°	7.4	8.5	9.1	8.5	8.0
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	18.21	19.81	18.57	20.13	20.44	17.94	19.54	18.30	19.86	20.17
	3H	19.78	21.23	20.16	21.55	21.91	19.45	20.90	19.83	21.23	21.59
	4H	20.33	21.69	20.73	22.04	22.41	19.99	21.35	20.39	21.70	22.07
	6H	20.70	21.95	21.11	22.32	22.71	20.35	21.60	20.76	21.97	22.36
	8H	20.79	22.00	21.22	22.38	22.78	20.44	21.64	20.86	22.03	22.43
	12H	20.85	22.00	21.28	22.38	22.81	20.49	21.64	20.92	22.02	22.45
4H	2H	18.85	20.21	19.25	20.56	20.93	18.64	20.00	19.03	20.34	20.72
	3H	20.66	21.79	21.07	22.19	22.59	20.35	21.49	20.76	21.88	22.28
	4H	21.34	22.37	21.78	22.78	23.22	20.99	22.01	21.42	22.43	22.86
	6H	21.83	22.72	22.28	23.16	23.62	21.45	22.34	21.90	22.78	23.24
	8H	21.96	22.79	22.42	23.24	23.70	21.57	22.41	22.04	22.85	23.32
	12H	22.04	22.79	22.52	23.27	23.74	21.65	22.40	22.14	22.88	23.35
8H	4H	21.61	22.44	22.07	22.89	23.35	21.30	22.13	21.76	22.57	23.04
	6H	22.20	22.89	22.69	23.38	23.86	21.86	22.55	22.35	23.04	23.51
	8H	22.39	23.02	22.90	23.52	24.01	22.04	22.66	22.55	23.16	23.65
	12H	22.53	23.08	23.04	23.58	24.14	22.16	22.71	22.67	23.21	23.77
12H	4H	21.62	22.37	22.11	22.85	23.32	21.32	22.07	21.80	22.55	23.02
	6H	22.23	22.85	22.74	23.36	23.85	21.90	22.52	22.41	23.03	23.52
	8H	22.48	23.03	22.98	23.52	24.08	22.13	22.68	22.64	23.17	23.73