

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: P1439772

Luminaire Tested: S123DR-H290D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439772
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-H290D850-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

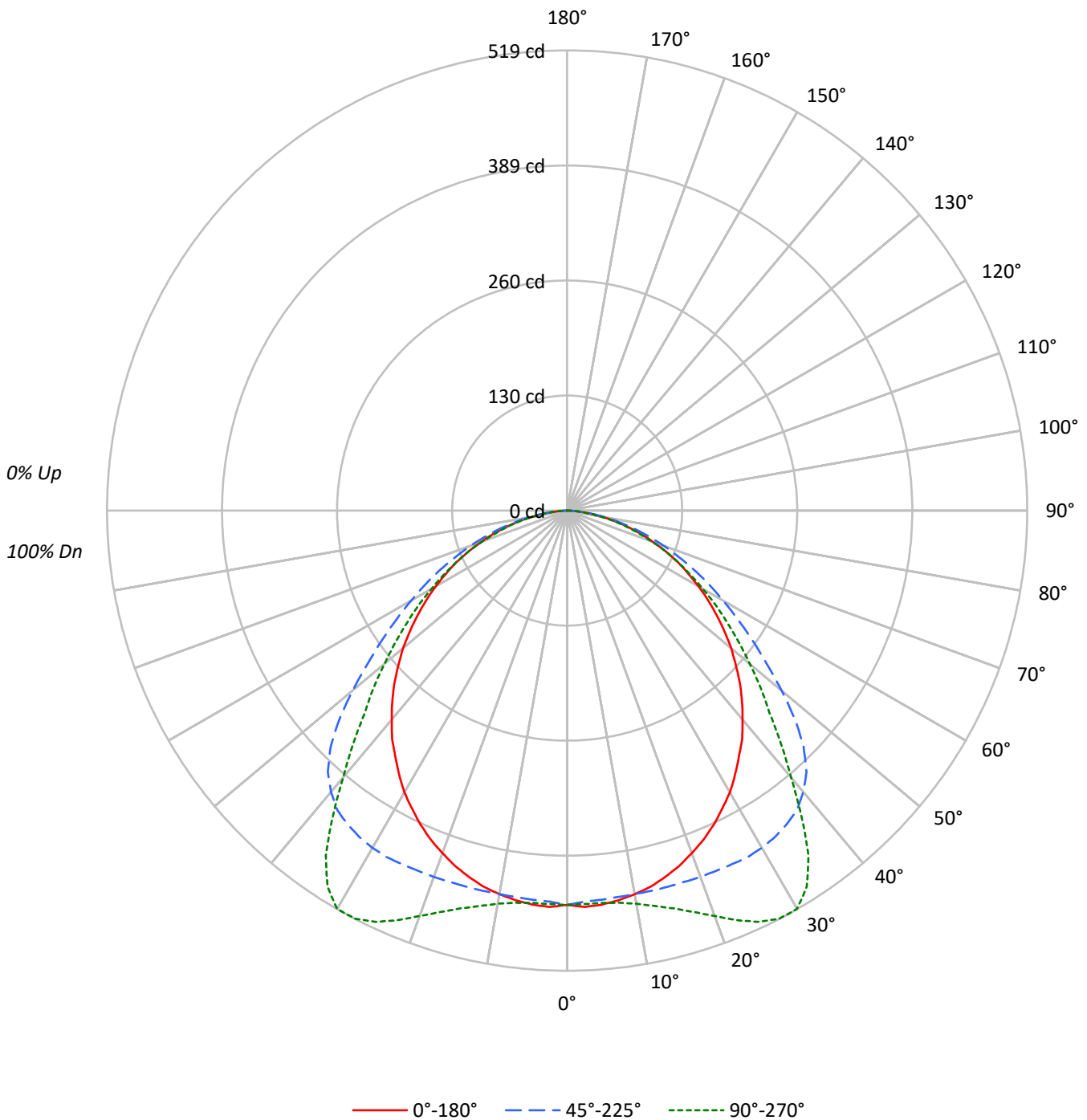
Lumens per Lamp: N/A
Luminaire Lumens: 1345.0 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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°	5361	5361	5361
5°	5399	5332	5376
10°	5377	5377	5512
15°	5338	5482	5798
20°	5274	5640	6242
25°	5200	5855	6808
30°	5109	6114	7221
35°	4975	6355	6985
40°	4843	6520	6181
45°	4697	6430	5504
50°	4528	5918	5038
55°	4330	5356	4631
60°	4126	4902	4258
65°	3923	4487	3937
70°	3631	4068	3567
75°	3279	3619	3191
80°	2742	3034	2618
85°	2103	2227	1978

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 6430 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.3	3.1
10°-20°	125.8	9.4
20°-30°	206.2	15.3
30°-40°	260.8	19.4
40°-50°	254.8	18.9
50°-60°	209.4	15.6
60°-70°	147.7	11.0
70°-80°	78.7	5.9
80°-90°	19.2	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°	374.4	27.8
0°-40°	635.2	47.2
0°-60°	1099.4	81.7
0°-90°	1345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1345.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	445	445	445	445	445	
5°	446	444	441	445	444	42
15°	428	430	439	459	464	121
25°	391	402	440	493	512	180
35°	338	362	432	482	475	212
45°	276	307	377	340	323	212
55°	206	237	255	229	220	184
65°	138	157	157	144	138	136
75°	70	79	78	70	68	75
85°	15	17	16	15	14	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	444.7	444.7	444.7	444.7	444.7
2.5°	447.5	446.1	441.5	445.6	444.2
5°	446.1	444.2	440.6	445.2	444.2
7.5°	443.3	442.4	439.6	446.5	446.1
10°	439.2	438.7	439.2	449.3	450.2
12.5°	434.6	435.0	439.2	453.4	456.7
15°	427.7	430.0	439.2	458.9	464.5
17.5°	420.3	424.0	439.2	466.3	474.6
20°	411.1	417.6	439.6	474.1	486.5
22.5°	401.9	409.7	439.6	484.7	499.9
25°	390.9	402.4	440.1	493.4	511.8
27.5°	378.9	392.7	440.6	500.3	518.7
30°	367.0	383.5	439.2	503.1	518.7
32.5°	352.7	373.0	436.4	498.5	503.1
35°	338.0	361.5	431.8	481.9	474.6
37.5°	324.2	349.0	425.8	451.6	434.1
40°	307.7	335.7	414.3	413.0	392.7
42.5°	292.0	321.4	399.6	373.9	357.3
45°	275.5	306.7	377.1	340.3	322.8
47.5°	258.0	290.6	348.6	308.6	296.2
50°	241.4	274.1	315.5	279.6	268.6
52.5°	223.5	256.6	283.7	253.8	244.2
55°	206.0	236.8	254.8	229.0	220.3
57.5°	188.5	217.5	228.1	205.6	198.7
60°	171.1	197.3	203.3	183.9	176.6
62.5°	154.1	178.4	180.3	163.3	156.8
65°	137.5	157.3	157.3	143.5	138.0
67.5°	120.0	137.0	136.1	123.2	120.0
70°	103.0	117.3	115.4	104.9	101.2
72.5°	86.9	97.5	96.1	87.8	83.7
75°	70.4	79.1	77.7	70.4	68.5
77.5°	54.7	60.7	59.3	54.3	52.9
80°	39.5	44.1	43.7	40.0	37.7
82.5°	26.7	29.0	28.5	26.2	24.8
85°	15.2	16.6	16.1	14.7	14.3
87.5°	6.0	6.9	7.4	6.9	6.4
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	17.47	19.08	17.84	19.39	19.70	17.20	18.81	17.57	19.12	19.43
	3H	19.04	20.49	19.42	20.81	21.18	18.72	20.16	19.09	20.49	20.85
	4H	19.59	20.95	19.99	21.30	21.68	19.25	20.61	19.65	20.96	21.33
	6H	19.96	21.22	20.37	21.58	21.97	19.61	20.87	20.02	21.23	21.62
	8H	20.06	21.26	20.48	21.65	22.05	19.70	20.90	20.13	21.29	21.69
	12H	20.11	21.26	20.54	21.64	22.07	19.75	20.90	20.18	21.29	21.71
4H	2H	18.11	19.47	18.51	19.82	20.19	17.90	19.26	18.30	19.61	19.98
	3H	19.92	21.05	20.33	21.45	21.85	19.61	20.75	20.02	21.15	21.55
	4H	20.61	21.63	21.04	22.04	22.48	20.25	21.28	20.68	21.69	22.13
	6H	21.09	21.98	21.54	22.42	22.88	20.71	21.60	21.17	22.05	22.50
	8H	21.22	22.06	21.68	22.50	22.96	20.84	21.67	21.30	22.12	22.58
	12H	21.31	22.05	21.79	22.53	23.00	20.92	21.67	21.40	22.14	22.61
8H	4H	20.87	21.71	21.33	22.15	22.61	20.56	21.39	21.02	21.84	22.30
	6H	21.46	22.15	21.96	22.64	23.12	21.12	21.81	21.61	22.30	22.78
	8H	21.66	22.28	22.17	22.78	23.27	21.30	21.92	21.81	22.43	22.91
	12H	21.80	22.35	22.30	22.84	23.40	21.43	21.98	21.94	22.47	23.03
12H	4H	20.89	21.64	21.37	22.11	22.58	20.59	21.33	21.07	21.81	22.28
	6H	21.49	22.12	22.00	22.62	23.11	21.16	21.79	21.67	22.29	22.78
	8H	21.74	22.29	22.24	22.78	23.34	21.39	21.94	21.90	22.43	22.99