

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: P1439769

Luminaire Tested: S123DR-H290D830-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439769
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-H290D830-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

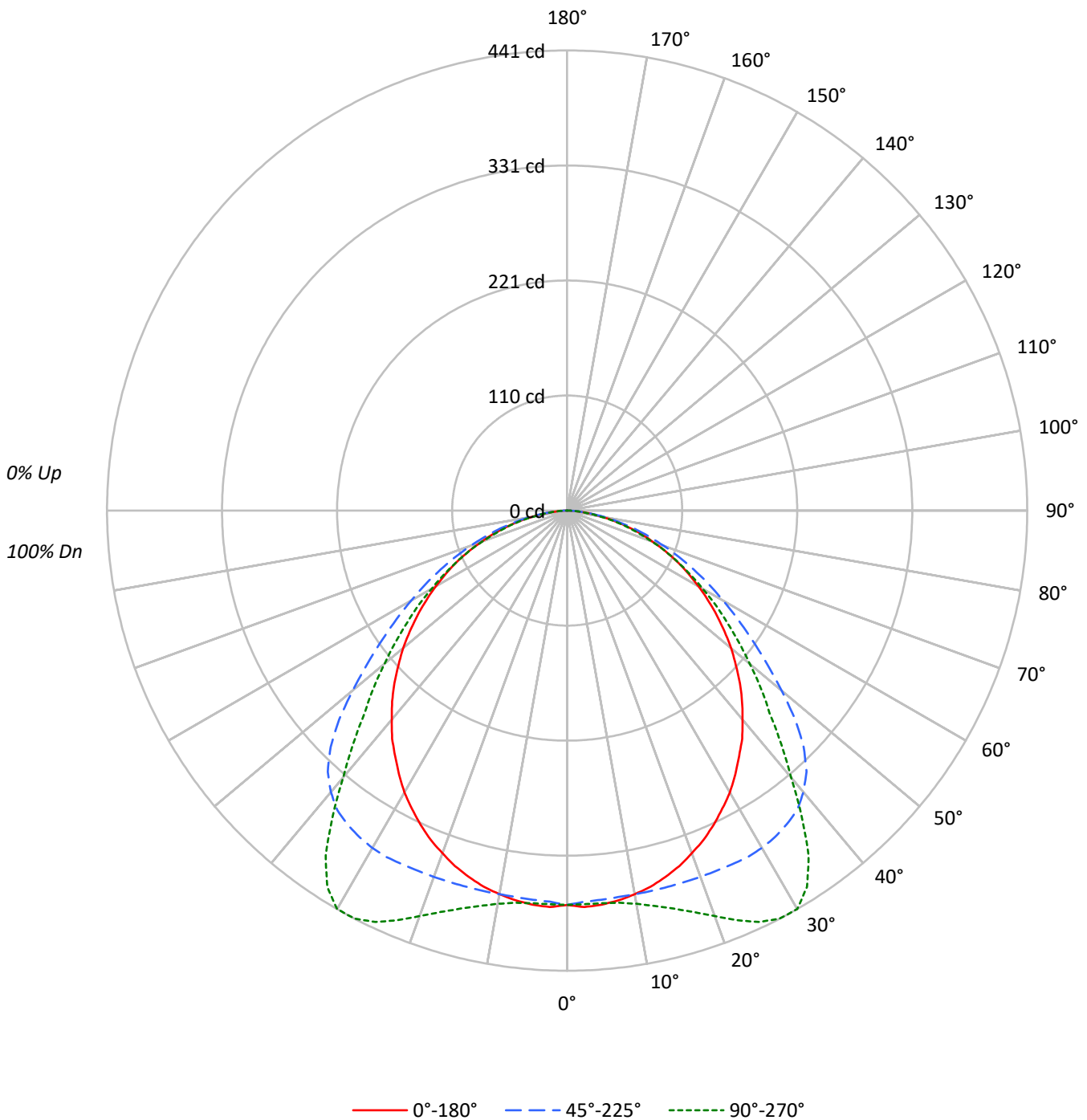
Lumens per Lamp: N/A
Luminaire Lumens: 1143.2 lumens
Efficiency: N/A
Efficacy: 97.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1439769

CATALOG NUMBER: S123DR-H290D830-X4F0-XX-UDD-FLB-W

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	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									100																			
1	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85									85																			
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71									71																			
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60									60																			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52									52																			
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45									45																			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39									39																			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34									34																			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31									31																			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28									28																			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25									25																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4556	4556	4556
5°	4588	4531	4570
10°	4570	4570	4684
15°	4537	4659	4928
20°	4483	4793	5305
25°	4419	4975	5787
30°	4342	5197	6138
35°	4229	5402	5937
40°	4116	5543	5254
45°	3991	5465	4679
50°	3849	5029	4282
55°	3681	4551	3935
60°	3506	4167	3619
65°	3335	3814	3346
70°	3084	3458	3032
75°	2786	3079	2711
80°	2333	2576	2222
85°	1784	1895	1674

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 5465 cd/sqm

TEST NUMBER: P1439769

CATALOG NUMBER: S123DR-H290D830-X4F0-XX-UDD-FLB-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.0	3.1
10°-20°	106.9	9.4
20°-30°	175.3	15.3
30°-40°	221.7	19.4
40°-50°	216.6	18.9
50°-60°	177.9	15.6
60°-70°	125.5	11.0
70°-80°	66.9	5.9
80°-90°	16.3	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°	318.2	27.8
0°-40°	539.9	47.2
0°-60°	934.4	81.7
0°-90°	1143.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1143.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	378	378	378	378	378	
5°	379	378	374	378	378	36
15°	364	365	373	390	395	103
25°	332	342	374	419	435	153
35°	287	307	367	410	403	180
45°	234	261	320	289	274	180
55°	175	201	216	195	187	157
65°	117	134	134	122	117	115
75°	60	67	66	60	58	63
85°	13	14	14	12	12	16
90°	0	0	0	0	0	

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CATALOG NUMBER: S123DR-H290D830-X4F0-XX-UDD-FLB-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	377.9	377.9	377.9	377.9	377.9
2.5°	380.3	379.1	375.2	378.7	377.6
5°	379.1	377.6	374.4	378.3	377.6
7.5°	376.8	376.0	373.6	379.5	379.1
10°	373.3	372.9	373.3	381.9	382.6
12.5°	369.3	369.7	373.3	385.4	388.1
15°	363.5	365.4	373.3	390.1	394.8
17.5°	357.2	360.4	373.3	396.3	403.4
20°	349.4	354.9	373.6	403.0	413.5
22.5°	341.6	348.2	373.6	411.9	424.8
25°	332.2	342.0	374.0	419.4	435.0
27.5°	322.1	333.8	374.4	425.2	440.9
30°	311.9	326.0	373.3	427.6	440.9
32.5°	299.8	317.0	370.9	423.7	427.6
35°	287.3	307.2	367.0	409.6	403.4
37.5°	275.5	296.7	361.9	383.8	369.0
40°	261.5	285.3	352.2	351.0	333.8
42.5°	248.2	273.2	339.6	317.8	303.7
45°	234.1	260.7	320.5	289.2	274.4
47.5°	219.3	247.0	296.3	262.3	251.7
50°	205.2	232.9	268.1	237.6	228.3
52.5°	190.0	218.1	241.2	215.7	207.5
55°	175.1	201.3	216.5	194.6	187.2
57.5°	160.2	184.9	193.9	174.7	168.8
60°	145.4	167.7	172.8	156.3	150.1
62.5°	130.9	151.6	153.2	138.7	133.3
65°	116.9	133.7	133.7	121.9	117.3
67.5°	102.0	116.5	115.7	104.7	102.0
70°	87.5	99.7	98.1	89.1	86.0
72.5°	73.9	82.9	81.7	74.7	71.1
75°	59.8	67.2	66.1	59.8	58.2
77.5°	46.5	51.6	50.4	46.1	44.9
80°	33.6	37.5	37.1	34.0	32.0
82.5°	22.7	24.6	24.2	22.3	21.1
85°	12.9	14.1	13.7	12.5	12.1
87.5°	5.1	5.9	6.3	5.9	5.5
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	16.91	18.51	17.27	18.83	19.14	16.63	18.24	17.00	18.55	18.87
	3H	18.48	19.92	18.85	20.25	20.61	18.15	19.59	18.53	19.92	20.28
	4H	19.03	20.39	19.43	20.74	21.11	18.68	20.04	19.08	20.39	20.77
	6H	19.39	20.65	19.80	21.02	21.41	19.04	20.30	19.45	20.66	21.06
	8H	19.49	20.69	19.92	21.08	21.48	19.14	20.34	19.56	20.73	21.12
	12H	19.55	20.70	19.98	21.08	21.51	19.19	20.34	19.62	20.72	21.15
4H	2H	17.55	18.91	17.95	19.25	19.63	17.33	18.69	17.73	19.04	19.42
	3H	19.35	20.49	19.76	20.89	21.29	19.05	20.18	19.46	20.58	20.98
	4H	20.04	21.07	20.47	21.48	21.92	19.69	20.71	20.12	21.12	21.56
	6H	20.52	21.42	20.98	21.86	22.31	20.14	21.04	20.60	21.48	21.94
	8H	20.66	21.49	21.12	21.93	22.40	20.27	21.11	20.73	21.55	22.01
	12H	20.74	21.49	21.22	21.97	22.44	20.35	21.10	20.83	21.58	22.05
8H	4H	20.31	21.14	20.77	21.58	22.05	19.99	20.83	20.45	21.27	21.74
	6H	20.90	21.59	21.39	22.08	22.55	20.55	21.25	21.05	21.73	22.21
	8H	21.09	21.71	21.60	22.22	22.71	20.73	21.35	21.24	21.86	22.35
	12H	21.23	21.78	21.74	22.27	22.83	20.86	21.41	21.37	21.90	22.46
12H	4H	20.32	21.07	20.80	21.55	22.02	20.02	20.77	20.50	21.24	21.71
	6H	20.93	21.55	21.44	22.06	22.55	20.60	21.22	21.11	21.73	22.21
	8H	21.17	21.72	21.68	22.21	22.77	20.83	21.38	21.33	21.87	22.43