

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: P1439819

Luminaire Tested: S123DR-S290D930-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439819
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-S290D930-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

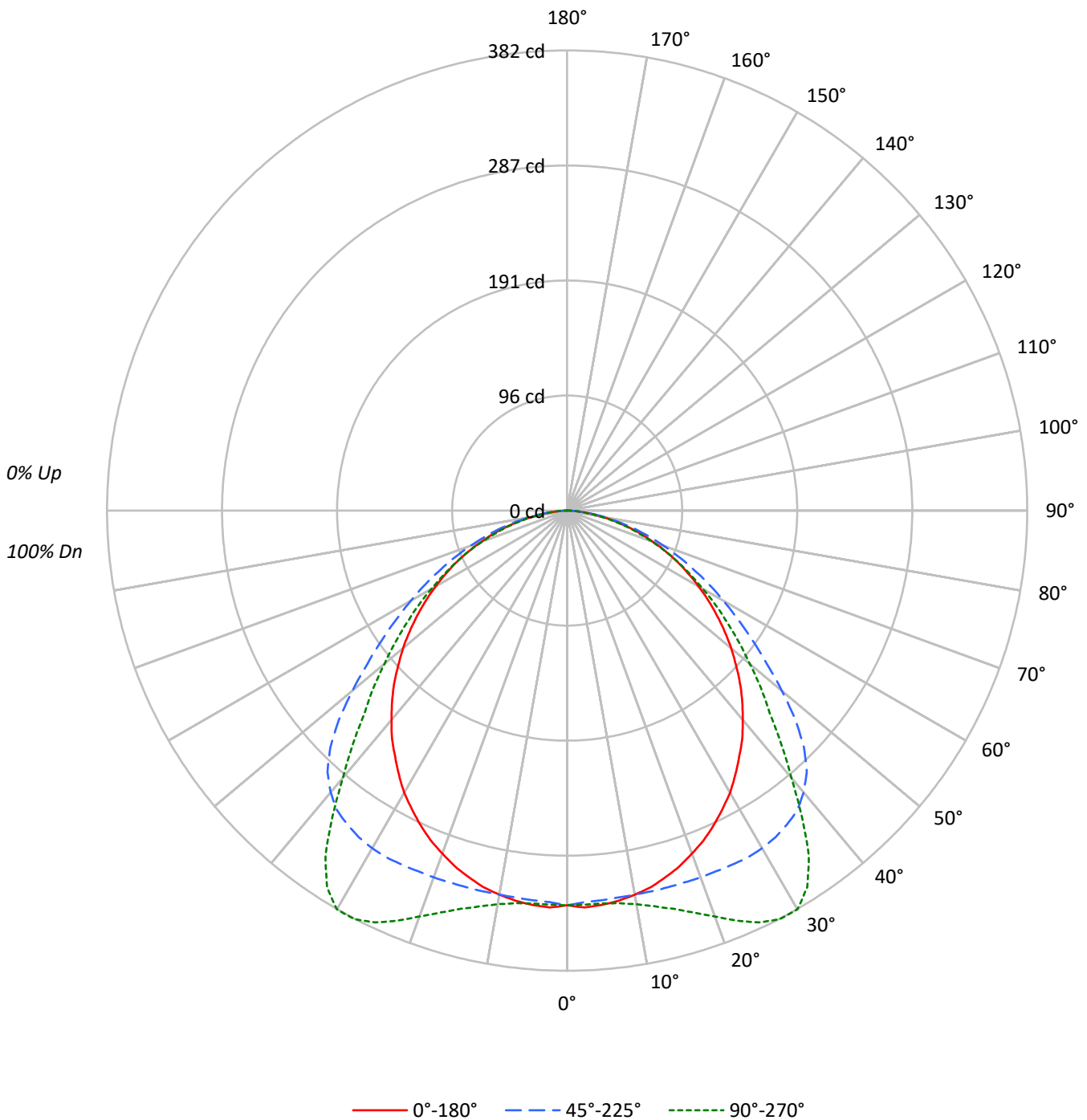
Lumens per Lamp: N/A
Luminaire Lumens: 991.2 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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	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°	3951	3951	3951
5°	3978	3930	3962
10°	3963	3963	4062
15°	3934	4040	4272
20°	3888	4157	4601
25°	3833	4314	5018
30°	3766	4506	5322
35°	3666	4683	5148
40°	3568	4807	4555
45°	3461	4738	4056
50°	3337	4361	3712
55°	3191	3947	3411
60°	3041	3612	3137
65°	2890	3306	2901
70°	2676	3000	2630
75°	2418	2669	2352
80°	2020	2236	1930
85°	1549	1646	1452

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 4738 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.2	3.1
10°-20°	92.7	9.4
20°-30°	152.0	15.3
30°-40°	192.2	19.4
40°-50°	187.8	18.9
50°-60°	154.3	15.6
60°-70°	108.8	11.0
70°-80°	58.0	5.9
80°-90°	14.1	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°	275.9	27.8
0°-40°	468.2	47.2
0°-60°	810.3	81.7
0°-90°	991.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	991.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	328	328	328	328	328	
5°	329	327	325	328	327	31
15°	315	317	324	338	342	89
25°	288	296	324	364	377	133
35°	249	266	318	355	350	156
45°	203	226	278	251	238	156
55°	152	174	188	169	162	136
65°	101	116	116	106	102	100
75°	52	58	57	52	50	55
85°	11	12	12	11	10	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	327.7	327.7	327.7	327.7	327.7
2.5°	329.8	328.7	325.4	328.4	327.4
5°	328.7	327.4	324.7	328.1	327.4
7.5°	326.7	326.0	324.0	329.1	328.7
10°	323.7	323.3	323.7	331.1	331.8
12.5°	320.3	320.6	323.7	334.2	336.5
15°	315.2	316.9	323.7	338.2	342.3
17.5°	309.8	312.5	323.7	343.7	349.8
20°	303.0	307.7	324.0	349.4	358.6
22.5°	296.2	302.0	324.0	357.2	368.4
25°	288.1	296.5	324.3	363.7	377.2
27.5°	279.3	289.4	324.7	368.7	382.3
30°	270.5	282.7	323.7	370.8	382.3
32.5°	259.9	274.9	321.6	367.4	370.8
35°	249.1	266.4	318.2	355.2	349.8
37.5°	238.9	257.2	313.8	332.8	319.9
40°	226.7	247.4	305.4	304.3	289.4
42.5°	215.2	236.9	294.5	275.5	263.3
45°	203.0	226.1	277.9	250.8	237.9
47.5°	190.1	214.2	256.9	227.4	218.3
50°	177.9	202.0	232.5	206.1	197.9
52.5°	164.7	189.1	209.1	187.1	180.0
55°	151.8	174.5	187.8	168.8	162.3
57.5°	139.0	160.3	168.1	151.5	146.4
60°	126.1	145.4	149.8	135.6	130.1
62.5°	113.5	131.5	132.9	120.3	115.6
65°	101.3	115.9	115.9	105.7	101.7
67.5°	88.5	101.0	100.3	90.8	88.5
70°	75.9	86.4	85.1	77.3	74.6
72.5°	64.1	71.8	70.8	64.7	61.7
75°	51.9	58.3	57.3	51.9	50.5
77.5°	40.3	44.7	43.7	40.0	39.0
80°	29.1	32.5	32.2	29.5	27.8
82.5°	19.7	21.4	21.0	19.3	18.3
85°	11.2	12.2	11.9	10.8	10.5
87.5°	4.4	5.1	5.4	5.1	4.7
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	16.41	18.02	16.78	18.33	18.65	16.14	17.74	16.50	18.06	18.37
	3H	17.98	19.43	18.36	19.76	20.12	17.65	19.10	18.03	19.43	19.79
	4H	18.53	19.89	18.93	20.24	20.62	18.19	19.55	18.59	19.90	20.27
	6H	18.90	20.16	19.31	20.52	20.91	18.55	19.81	18.96	20.17	20.56
	8H	19.00	20.20	19.42	20.59	20.99	18.64	19.84	19.07	20.23	20.63
	12H	19.05	20.20	19.48	20.58	21.01	18.69	19.84	19.12	20.23	20.65
4H	2H	17.05	18.41	17.45	18.76	19.13	16.84	18.20	17.24	18.55	18.92
	3H	18.86	19.99	19.27	20.39	20.79	18.55	19.69	18.96	20.09	20.49
	4H	19.55	20.57	19.98	20.98	21.42	19.19	20.22	19.62	20.63	21.07
	6H	20.03	20.92	20.48	21.36	21.82	19.65	20.54	20.11	20.99	21.44
	8H	20.16	21.00	20.62	21.44	21.90	19.78	20.61	20.24	21.06	21.52
	12H	20.25	20.99	20.73	21.47	21.94	19.86	20.61	20.34	21.08	21.55
8H	4H	19.81	20.65	20.27	21.09	21.55	19.50	20.33	19.96	20.78	21.24
	6H	20.40	21.09	20.90	21.58	22.06	20.06	20.75	20.55	21.24	21.72
	8H	20.60	21.22	21.11	21.72	22.21	20.24	20.86	20.75	21.37	21.85
	12H	20.74	21.29	21.24	21.78	22.34	20.37	20.92	20.87	21.41	21.97
12H	4H	19.83	20.58	20.31	21.05	21.52	19.53	20.27	20.01	20.75	21.22
	6H	20.43	21.06	20.94	21.56	22.05	20.10	20.73	20.61	21.23	21.72
	8H	20.68	21.23	21.18	21.72	22.28	20.33	20.88	20.84	21.37	21.93