

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: P1439773

Luminaire Tested: S123DR-H290D927-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439773
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-H290D927-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

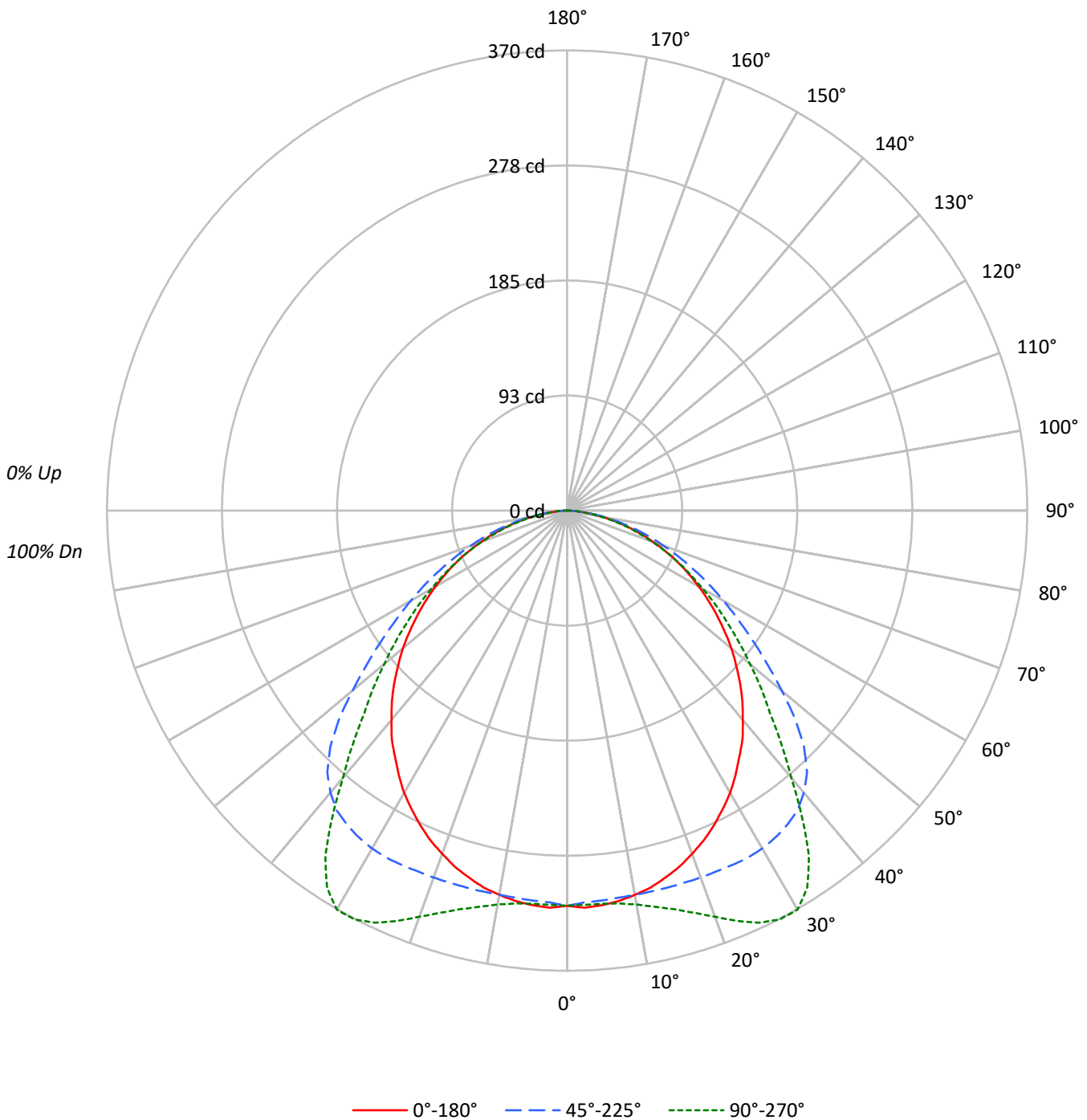
Lumens per Lamp: N/A
Luminaire Lumens: 960.8 lumens
Efficiency: N/A
Efficacy: 82.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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°	3830	3830	3830
5°	3856	3809	3840
10°	3840	3840	3937
15°	3813	3916	4141
20°	3768	4029	4458
25°	3714	4182	4863
30°	3649	4367	5158
35°	3553	4541	4989
40°	3459	4659	4415
45°	3356	4593	3932
50°	3235	4226	3597
55°	3094	3826	3306
60°	2947	3501	3041
65°	2801	3204	2810
70°	2594	2908	2549
75°	2343	2585	2278
80°	1965	2166	1868
85°	1494	1591	1411

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 4593 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.2	3.1
10°-20°	89.9	9.4
20°-30°	147.3	15.3
30°-40°	186.3	19.4
40°-50°	182.0	18.9
50°-60°	149.5	15.6
60°-70°	105.5	11.0
70°-80°	56.2	5.9
80°-90°	13.7	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°	267.4	27.8
0°-40°	453.8	47.2
0°-60°	785.4	81.7
0°-90°	960.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	960.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	318	318	318	318	318	
5°	319	317	315	318	317	30
15°	306	307	314	328	332	86
25°	279	287	314	352	366	129
35°	241	258	308	344	339	151
45°	197	219	269	243	231	152
55°	147	169	182	164	157	132
65°	98	112	112	102	98	97
75°	50	56	56	50	49	53
85°	11	12	12	10	10	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	317.7	317.7	317.7	317.7	317.7
2.5°	319.6	318.6	315.4	318.3	317.3
5°	318.6	317.3	314.7	318.0	317.3
7.5°	316.7	316.0	314.0	319.0	318.6
10°	313.7	313.4	313.7	320.9	321.6
12.5°	310.4	310.8	313.7	323.9	326.2
15°	305.5	307.1	313.7	327.8	331.8
17.5°	300.2	302.9	313.7	333.1	339.0
20°	293.7	298.3	314.0	338.7	347.5
22.5°	287.1	292.7	314.0	346.2	357.1
25°	279.2	287.4	314.4	352.5	365.6
27.5°	270.7	280.5	314.7	357.4	370.5
30°	262.1	274.0	313.7	359.4	370.5
32.5°	252.0	266.4	311.7	356.1	359.4
35°	241.4	258.2	308.5	344.3	339.0
37.5°	231.6	249.3	304.2	322.6	310.1
40°	219.8	239.8	296.0	295.0	280.5
42.5°	208.6	229.6	285.5	267.1	255.2
45°	196.8	219.1	269.4	243.1	230.6
47.5°	184.3	207.6	249.0	220.4	211.6
50°	172.5	195.8	225.3	199.7	191.8
52.5°	159.6	183.3	202.7	181.3	174.4
55°	147.2	169.2	182.0	163.6	157.3
57.5°	134.7	155.4	162.9	146.8	141.9
60°	122.2	140.9	145.2	131.4	126.1
62.5°	110.0	127.5	128.8	116.6	112.0
65°	98.2	112.3	112.3	102.5	98.5
67.5°	85.7	97.9	97.2	88.0	85.7
70°	73.6	83.8	82.5	74.9	72.3
72.5°	62.1	69.6	68.7	62.7	59.8
75°	50.3	56.5	55.5	50.3	48.9
77.5°	39.1	43.4	42.4	38.8	37.8
80°	28.3	31.5	31.2	28.6	26.9
82.5°	19.1	20.7	20.4	18.7	17.7
85°	10.8	11.8	11.5	10.5	10.2
87.5°	4.3	4.9	5.3	4.9	4.6
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	16.30	17.91	16.67	18.22	18.54	16.03	17.63	16.39	17.95	18.26
	3H	17.87	19.32	18.25	19.65	20.01	17.54	18.99	17.92	19.32	19.68
	4H	18.43	19.79	18.82	20.13	20.51	18.08	19.44	18.48	19.79	20.16
	6H	18.79	20.05	19.20	20.41	20.81	18.44	19.70	18.85	20.06	20.45
	8H	18.89	20.09	19.32	20.48	20.88	18.53	19.73	18.96	20.12	20.52
	12H	18.95	20.10	19.37	20.48	20.91	18.58	19.73	19.01	20.11	20.54
4H	2H	16.94	18.30	17.34	18.65	19.03	16.73	18.09	17.13	18.44	18.81
	3H	18.75	19.88	19.16	20.28	20.68	18.44	19.58	18.85	19.98	20.38
	4H	19.44	20.46	19.87	20.88	21.31	19.08	20.11	19.51	20.52	20.96
	6H	19.92	20.81	20.37	21.25	21.71	19.54	20.43	20.00	20.88	21.33
	8H	20.05	20.89	20.51	21.33	21.80	19.67	20.50	20.13	20.94	21.41
	12H	20.14	20.89	20.62	21.36	21.83	19.75	20.50	20.23	20.97	21.44
8H	4H	19.70	20.54	20.16	20.98	21.45	19.39	20.22	19.85	20.67	21.13
	6H	20.29	20.99	20.79	21.48	21.95	19.95	20.64	20.44	21.13	21.61
	8H	20.49	21.11	21.00	21.62	22.10	20.13	20.75	20.64	21.26	21.74
	12H	20.63	21.18	21.14	21.67	22.23	20.26	20.81	20.77	21.30	21.86
12H	4H	19.72	20.47	20.20	20.94	21.41	19.42	20.16	19.90	20.64	21.11
	6H	20.33	20.95	20.84	21.46	21.94	19.99	20.62	20.50	21.12	21.61
	8H	20.57	21.12	21.08	21.61	22.17	20.22	20.77	20.73	21.26	21.83