

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: P1439775

Luminaire Tested: S123DR-H290D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439775
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-H290D935-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

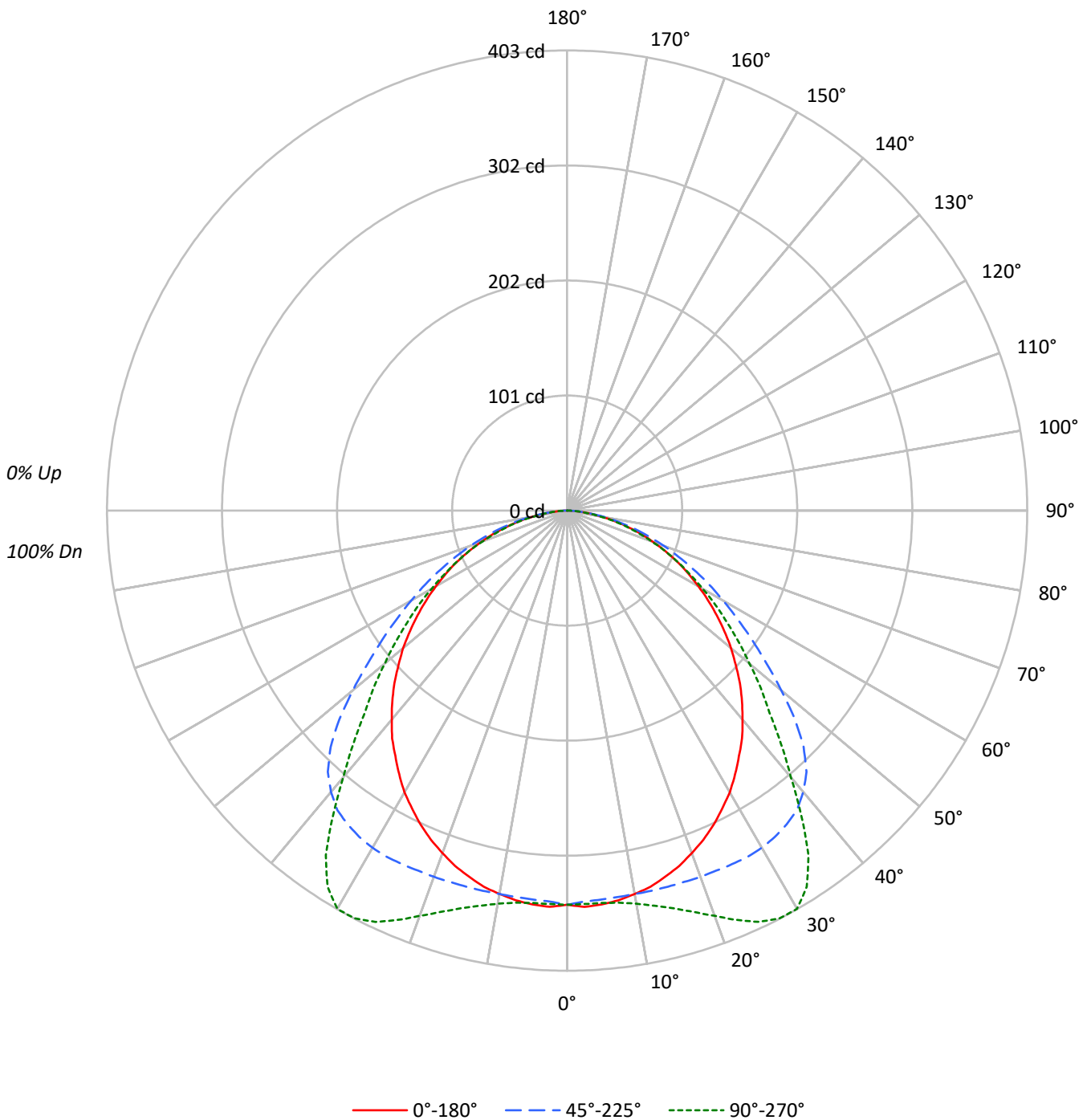
Lumens per Lamp: N/A
Luminaire Lumens: 1044.2 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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°	4162	4162	4162
5°	4191	4139	4174
10°	4175	4175	4279
15°	4144	4256	4501
20°	4095	4379	4846
25°	4037	4546	5287
30°	3966	4747	5606
35°	3862	4935	5424
40°	3760	5063	4799
45°	3647	4992	4273
50°	3515	4593	3911
55°	3361	4158	3594
60°	3202	3805	3306
65°	3047	3483	3055
70°	2820	3158	2767
75°	2543	2809	2478
80°	2132	2354	2034
85°	1632	1729	1535

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 4992 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.9	3.1
10°-20°	97.7	9.4
20°-30°	160.1	15.3
30°-40°	202.5	19.4
40°-50°	197.9	18.9
50°-60°	162.5	15.6
60°-70°	114.7	11.0
70°-80°	61.1	5.9
80°-90°	14.9	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°	290.7	27.8
0°-40°	493.2	47.2
0°-60°	853.6	81.7
0°-90°	1044.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1044.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	346	345	342	346	345	33
15°	332	334	341	356	361	94
25°	304	312	342	383	397	140
35°	262	281	335	374	368	164
45°	214	238	293	264	251	165
55°	160	184	198	178	171	143
65°	107	122	122	111	107	105
75°	55	61	60	55	53	58
85°	12	13	12	11	11	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	345.2	345.2	345.2	345.2	345.2
2.5°	347.4	346.3	342.7	346.0	344.9
5°	346.3	344.9	342.0	345.6	344.9
7.5°	344.2	343.5	341.3	346.7	346.3
10°	341.0	340.6	341.0	348.8	349.5
12.5°	337.4	337.8	341.0	352.0	354.5
15°	332.0	333.8	341.0	356.3	360.6
17.5°	326.3	329.2	341.0	362.0	368.5
20°	319.2	324.2	341.3	368.1	377.7
22.5°	312.0	318.1	341.3	376.3	388.1
25°	303.5	312.4	341.7	383.1	397.4
27.5°	294.2	304.9	342.0	388.4	402.7
30°	284.9	297.8	341.0	390.6	402.7
32.5°	273.8	289.6	338.8	387.0	390.6
35°	262.4	280.6	335.3	374.2	368.5
37.5°	251.7	271.0	330.6	350.6	337.0
40°	238.9	260.6	321.7	320.6	304.9
42.5°	226.7	249.6	310.3	290.3	277.4
45°	213.9	238.1	292.8	264.2	250.6
47.5°	200.3	225.6	270.6	239.6	229.9
50°	187.4	212.8	244.9	217.1	208.5
52.5°	173.5	199.2	220.3	197.1	189.6
55°	159.9	183.9	197.8	177.8	171.0
57.5°	146.4	168.9	177.1	159.6	154.2
60°	132.8	153.2	157.8	142.8	137.1
62.5°	119.6	138.5	140.0	126.7	121.7
65°	106.8	122.1	122.1	111.4	107.1
67.5°	93.2	106.4	105.7	95.7	93.2
70°	80.0	91.0	89.6	81.4	78.5
72.5°	67.5	75.7	74.6	68.2	65.0
75°	54.6	61.4	60.3	54.6	53.2
77.5°	42.5	47.1	46.1	42.1	41.1
80°	30.7	34.3	33.9	31.1	29.3
82.5°	20.7	22.5	22.1	20.4	19.3
85°	11.8	12.9	12.5	11.4	11.1
87.5°	4.6	5.4	5.7	5.4	5.0
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	16.59	18.20	16.96	18.51	18.83	16.32	17.92	16.68	18.24	18.55
	3H	18.16	19.61	18.54	19.94	20.30	17.84	19.28	18.21	19.61	19.97
	4H	18.71	20.07	19.11	20.42	20.80	18.37	19.73	18.77	20.08	20.45
	6H	19.08	20.34	19.49	20.70	21.09	18.73	19.99	19.14	20.35	20.74
	8H	19.18	20.38	19.60	20.77	21.17	18.82	20.02	19.25	20.41	20.81
	12H	19.23	20.38	19.66	20.77	21.19	18.87	20.03	19.30	20.41	20.84
4H	2H	17.23	18.59	17.63	18.94	19.32	17.02	18.38	17.42	18.73	19.10
	3H	19.04	20.17	19.45	20.57	20.97	18.73	19.87	19.14	20.27	20.67
	4H	19.73	20.75	20.16	21.16	21.60	19.37	20.39	19.80	20.81	21.25
	6H	20.21	21.10	20.66	21.54	22.00	19.83	20.72	20.29	21.17	21.62
	8H	20.34	21.18	20.80	21.62	22.08	19.96	20.79	20.42	21.24	21.70
	12H	20.43	21.18	20.91	21.65	22.12	20.04	20.79	20.52	21.26	21.73
8H	4H	19.99	20.83	20.45	21.27	21.73	19.68	20.51	20.14	20.96	21.42
	6H	20.58	21.28	21.08	21.76	22.24	20.24	20.93	20.73	21.42	21.90
	8H	20.78	21.40	21.29	21.91	22.39	20.42	21.04	20.93	21.55	22.03
	12H	20.92	21.47	21.43	21.96	22.52	20.55	21.10	21.06	21.59	22.15
12H	4H	20.01	20.76	20.49	21.23	21.70	19.71	20.45	20.19	20.93	21.40
	6H	20.61	21.24	21.12	21.74	22.23	20.28	20.91	20.79	21.41	21.90
	8H	20.86	21.41	21.37	21.90	22.46	20.51	21.06	21.02	21.55	22.12