

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: P1439820

Luminaire Tested: S123DR-S290D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439820
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-S290D935-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

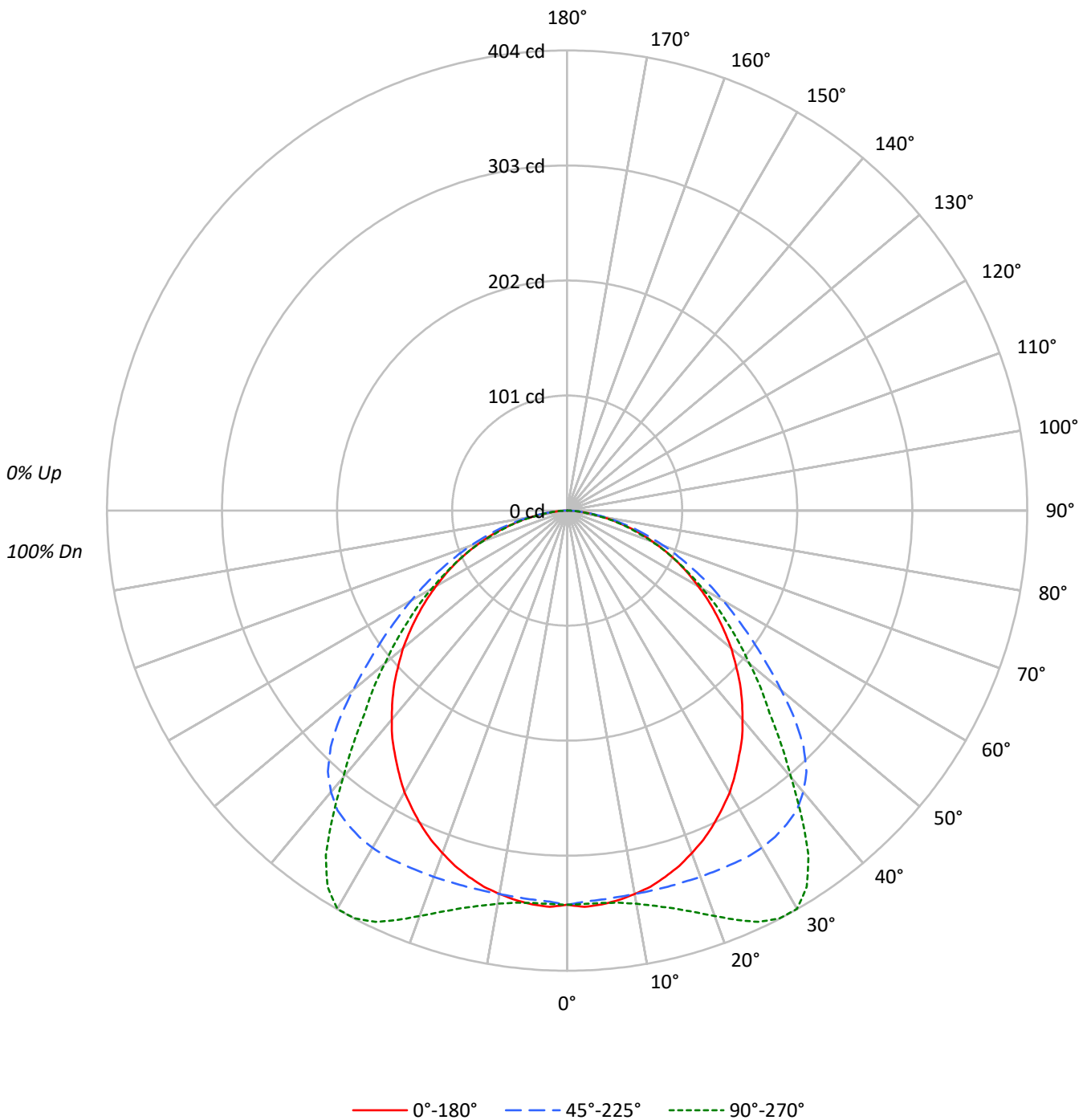
Lumens per Lamp: N/A
Luminaire Lumens: 1046.8 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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

TEST NUMBER: P1439820

CATALOG NUMBER: S123DR-S290D935-X4F0-XX-UDD-FLB-W

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°	4173	4173	4173
5°	4202	4150	4184
10°	4184	4184	4290
15°	4155	4266	4512
20°	4106	4390	4859
25°	4047	4556	5300
30°	3976	4758	5620
35°	3872	4947	5437
40°	3768	5076	4811
45°	3656	5004	4285
50°	3524	4605	3920
55°	3369	4168	3603
60°	3209	3815	3313
65°	3052	3492	3064
70°	2827	3166	2774
75°	2553	2818	2483
80°	2138	2361	2034
85°	1632	1729	1535

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 5004 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.0	3.1
10°-20°	97.9	9.4
20°-30°	160.5	15.3
30°-40°	203.0	19.4
40°-50°	198.4	18.9
50°-60°	162.9	15.6
60°-70°	114.9	11.0
70°-80°	61.3	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°	291.4	27.8
0°-40°	494.4	47.2
0°-60°	855.7	81.7
0°-90°	1046.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1046.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	346	346	346	346	346	
5°	347	346	343	346	346	33
15°	333	335	342	357	362	94
25°	304	313	342	384	398	140
35°	263	281	336	375	369	165
45°	214	239	294	265	251	165
55°	160	184	198	178	171	143
65°	107	122	122	112	107	106
75°	55	62	60	55	53	58
85°	12	13	12	12	11	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	346.1	346.1	346.1	346.1	346.1
2.5°	348.2	347.2	343.6	346.8	345.7
5°	347.2	345.7	342.9	346.5	345.7
7.5°	345.0	344.3	342.2	347.5	347.2
10°	341.8	341.4	341.8	349.7	350.4
12.5°	338.2	338.6	341.8	352.9	355.4
15°	332.9	334.6	341.8	357.2	361.5
17.5°	327.1	330.0	341.8	362.9	369.4
20°	320.0	325.0	342.2	369.0	378.7
22.5°	312.8	318.9	342.2	377.2	389.0
25°	304.2	313.2	342.5	384.0	398.4
27.5°	294.9	305.7	342.9	389.4	403.7
30°	285.6	298.5	341.8	391.6	403.7
32.5°	274.5	290.3	339.7	388.0	391.6
35°	263.1	281.3	336.1	375.1	369.4
37.5°	252.3	271.7	331.4	351.5	337.9
40°	239.4	261.3	322.5	321.4	305.7
42.5°	227.3	250.2	311.0	291.0	278.1
45°	214.4	238.7	293.5	264.9	251.3
47.5°	200.8	226.2	271.3	240.2	230.5
50°	187.9	213.3	245.5	217.6	209.0
52.5°	173.9	199.7	220.8	197.6	190.0
55°	160.3	184.3	198.3	178.2	171.4
57.5°	146.7	169.3	177.5	160.0	154.6
60°	133.1	153.5	158.2	143.2	137.4
62.5°	119.9	138.9	140.3	127.1	122.0
65°	107.0	122.4	122.4	111.7	107.4
67.5°	93.4	106.7	105.9	95.9	93.4
70°	80.2	91.3	89.8	81.6	78.7
72.5°	67.6	75.9	74.8	68.4	65.1
75°	54.8	61.6	60.5	54.8	53.3
77.5°	42.6	47.2	46.2	42.2	41.2
80°	30.8	34.4	34.0	31.1	29.3
82.5°	20.8	22.5	22.2	20.4	19.3
85°	11.8	12.9	12.5	11.5	11.1
87.5°	4.7	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	16.60	18.21	16.97	18.52	18.83	16.33	17.93	16.69	18.25	18.56
	3H	18.17	19.62	18.55	19.94	20.31	17.84	19.29	18.22	19.62	19.98
	4H	18.72	20.08	19.12	20.43	20.81	18.38	19.74	18.78	20.09	20.46
	6H	19.09	20.35	19.50	20.71	21.10	18.74	20.00	19.15	20.36	20.75
	8H	19.19	20.39	19.61	20.78	21.18	18.83	20.03	19.26	20.42	20.82
	12H	19.24	20.39	19.67	20.77	21.20	18.88	20.03	19.31	20.41	20.84
4H	2H	17.24	18.60	17.64	18.95	19.32	17.03	18.39	17.43	18.74	19.11
	3H	19.05	20.18	19.46	20.58	20.98	18.74	19.88	19.15	20.28	20.68
	4H	19.74	20.76	20.17	21.17	21.61	19.38	20.40	19.81	20.82	21.25
	6H	20.22	21.11	20.67	21.55	22.01	19.84	20.73	20.29	21.17	21.63
	8H	20.35	21.19	20.81	21.63	22.09	19.97	20.80	20.43	21.24	21.71
	12H	20.44	21.19	20.92	21.66	22.13	20.05	20.79	20.53	21.27	21.74
8H	4H	20.00	20.84	20.46	21.28	21.74	19.69	20.52	20.15	20.97	21.43
	6H	20.59	21.28	21.09	21.77	22.25	20.25	20.94	20.74	21.43	21.90
	8H	20.79	21.41	21.30	21.91	22.40	20.43	21.05	20.94	21.55	22.04
	12H	20.93	21.48	21.43	21.97	22.53	20.56	21.11	21.06	21.60	22.16
12H	4H	20.02	20.77	20.50	21.24	21.71	19.71	20.46	20.19	20.94	21.41
	6H	20.62	21.25	21.13	21.75	22.24	20.29	20.91	20.80	21.42	21.91
	8H	20.87	21.42	21.37	21.91	22.47	20.52	21.07	21.03	21.56	22.12