

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: P1439815

Luminaire Tested: S123DR-S290D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439815
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-S290D835-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

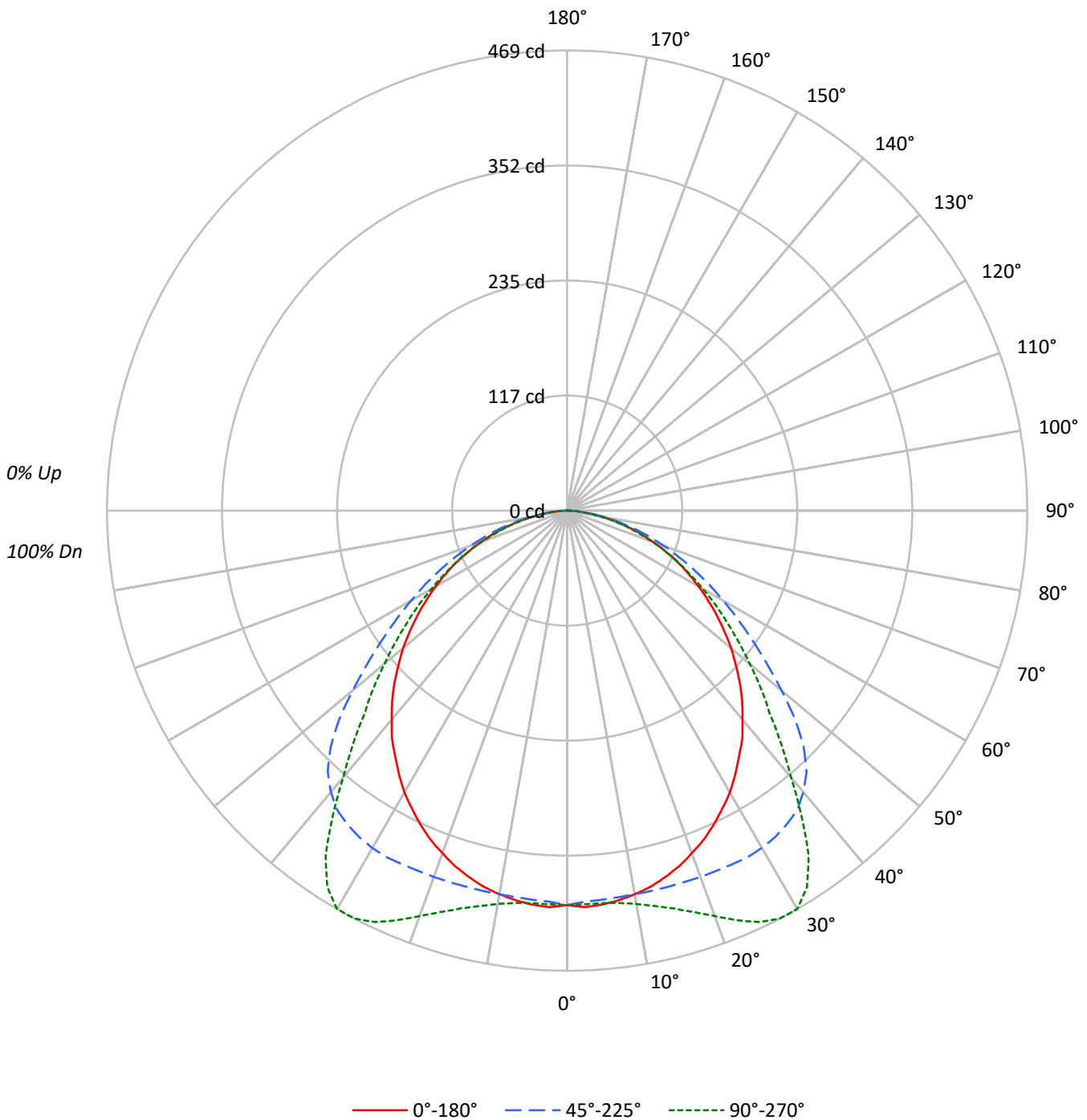
Lumens per Lamp: N/A
Luminaire Lumens: 1215.8 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	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°	4847	4847	4847
5°	4880	4819	4860
10°	4860	4860	4983
15°	4825	4955	5240
20°	4768	5099	5643
25°	4700	5292	6155
30°	4618	5527	6528
35°	4496	5744	6314
40°	4377	5894	5587
45°	4246	5812	4975
50°	4093	5349	4554
55°	3914	4841	4185
60°	3728	4430	3848
65°	3546	4057	3557
70°	3282	3677	3225
75°	2963	3275	2883
80°	2479	2742	2368
85°	1895	2006	1784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 5812 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.3	3.1
10°-20°	113.7	9.4
20°-30°	186.4	15.3
30°-40°	235.8	19.4
40°-50°	230.4	18.9
50°-60°	189.3	15.6
60°-70°	133.5	11.0
70°-80°	71.2	5.9
80°-90°	17.3	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°	338.4	27.8
0°-40°	574.2	47.2
0°-60°	993.8	81.7
0°-90°	1215.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1215.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	402	402	402	402	402	
5°	403	402	398	402	402	38
15°	387	389	397	415	420	109
25°	353	364	398	446	463	163
35°	306	327	390	436	429	191
45°	249	277	341	308	292	192
55°	186	214	230	207	199	167
65°	124	142	142	130	125	123
75°	64	72	70	64	62	68
85°	14	15	14	13	13	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	402.0	402.0	402.0	402.0	402.0
2.5°	404.5	403.2	399.1	402.8	401.6
5°	403.2	401.6	398.2	402.4	401.6
7.5°	400.7	399.9	397.4	403.6	403.2
10°	397.0	396.6	397.0	406.1	407.0
12.5°	392.8	393.2	397.0	409.9	412.8
15°	386.6	388.7	397.0	414.9	419.8
17.5°	379.9	383.3	397.0	421.5	429.0
20°	371.6	377.4	397.4	428.6	439.8
22.5°	363.3	370.4	397.4	438.1	451.9
25°	353.3	363.7	397.8	446.0	462.7
27.5°	342.5	355.0	398.2	452.3	468.9
30°	331.7	346.7	397.0	454.8	468.9
32.5°	318.8	337.1	394.5	450.6	454.8
35°	305.5	326.7	390.3	435.6	429.0
37.5°	293.1	315.5	384.9	408.2	392.4
40°	278.1	303.5	374.5	373.3	355.0
42.5°	264.0	290.6	361.2	338.0	323.0
45°	249.0	277.3	340.9	307.6	291.8
47.5°	233.2	262.7	315.1	278.9	267.7
50°	218.2	247.8	285.2	252.7	242.8
52.5°	202.0	232.0	256.5	229.5	220.7
55°	186.2	214.1	230.3	207.0	199.1
57.5°	170.4	196.6	206.2	185.8	179.6
60°	154.6	178.3	183.7	166.3	159.6
62.5°	139.3	161.3	163.0	147.6	141.7
65°	124.3	142.2	142.2	129.7	124.7
67.5°	108.5	123.9	123.0	111.4	108.5
70°	93.1	106.0	104.3	94.8	91.5
72.5°	78.6	88.1	86.9	79.4	75.7
75°	63.6	71.5	70.3	63.6	61.9
77.5°	49.5	54.9	53.6	49.1	47.8
80°	35.7	39.9	39.5	36.2	34.1
82.5°	24.1	26.2	25.8	23.7	22.4
85°	13.7	15.0	14.5	13.3	12.9
87.5°	5.4	6.2	6.7	6.2	5.8
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	17.12	18.73	17.49	19.04	19.35	16.85	18.45	17.21	18.77	19.08
	3H	18.69	20.14	19.07	20.46	20.82	18.36	19.81	18.74	20.14	20.50
	4H	19.24	20.60	19.64	20.95	21.33	18.90	20.26	19.30	20.61	20.98
	6H	19.61	20.87	20.02	21.23	21.62	19.26	20.52	19.67	20.88	21.27
	8H	19.71	20.91	20.13	21.30	21.70	19.35	20.55	19.78	20.94	21.34
	12H	19.76	20.91	20.19	21.29	21.72	19.40	20.55	19.83	20.93	21.36
4H	2H	17.76	19.12	18.16	19.47	19.84	17.55	18.91	17.95	19.26	19.63
	3H	19.57	20.70	19.98	21.10	21.50	19.26	20.40	19.67	20.80	21.20
	4H	20.26	21.28	20.69	21.69	22.13	19.90	20.92	20.33	21.34	21.77
	6H	20.74	21.63	21.19	22.07	22.53	20.36	21.25	20.82	21.69	22.15
	8H	20.87	21.70	21.33	22.15	22.61	20.49	21.32	20.95	21.76	22.23
	12H	20.95	21.70	21.44	22.18	22.65	20.57	21.32	21.05	21.79	22.26
8H	4H	20.52	21.36	20.98	21.80	22.26	20.21	21.04	20.67	21.49	21.95
	6H	21.11	21.80	21.61	22.29	22.77	20.77	21.46	21.26	21.95	22.43
	8H	21.31	21.93	21.82	22.43	22.92	20.95	21.57	21.46	22.08	22.56
	12H	21.45	22.00	21.95	22.49	23.05	21.08	21.63	21.58	22.12	22.68
12H	4H	20.54	21.29	21.02	21.76	22.23	20.23	20.98	20.71	21.46	21.93
	6H	21.14	21.77	21.65	22.27	22.76	20.81	21.44	21.32	21.94	22.43
	8H	21.39	21.94	21.89	22.43	22.99	21.04	21.59	21.55	22.08	22.64