

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: P1439822

Luminaire Tested: S123DR-S290D950-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439822
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-S290D950-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

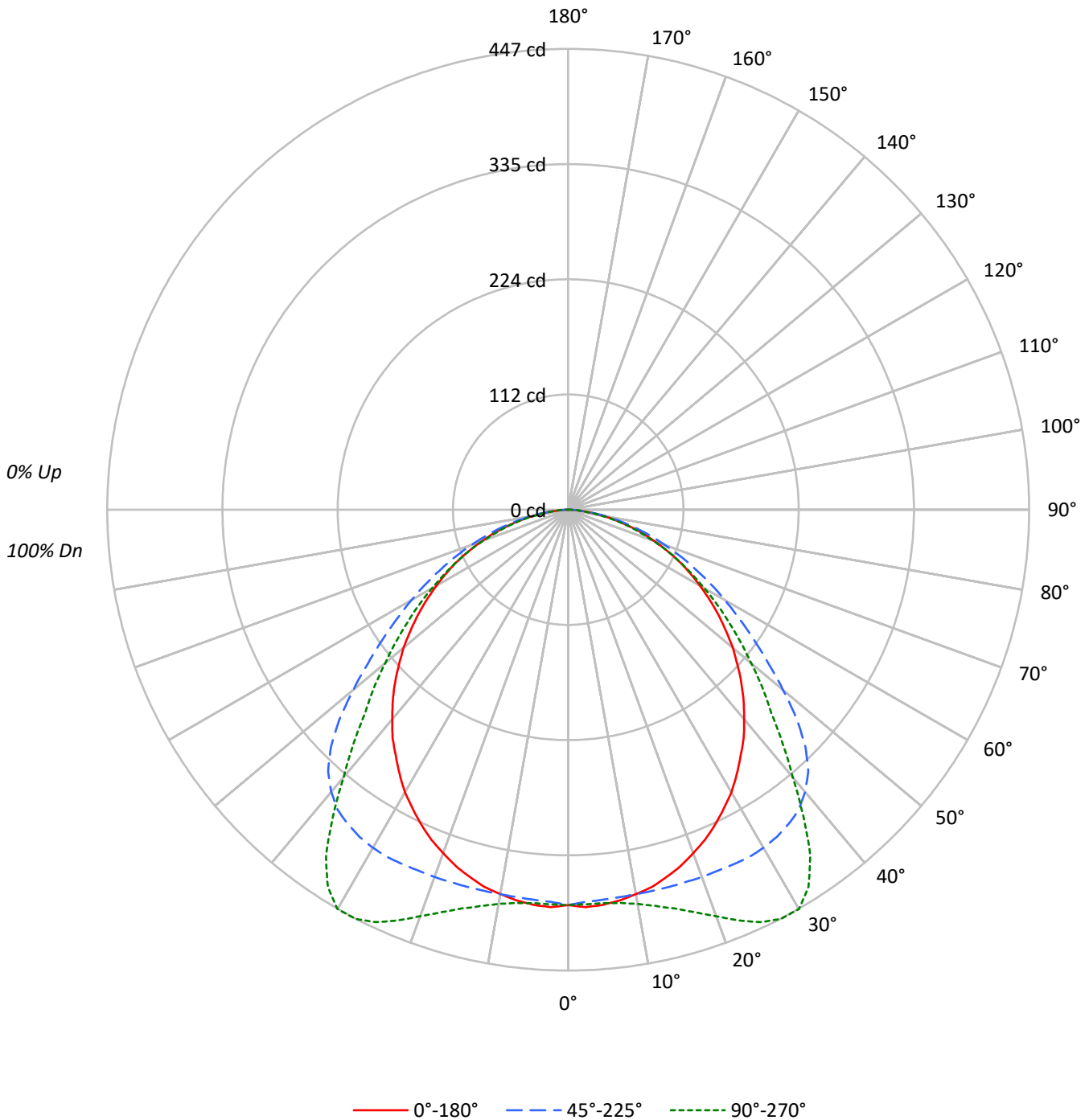
Lumens per Lamp: N/A
Luminaire Lumens: 1159.9 lumens
Efficiency: N/A
Efficacy: 92.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
Input Voltage (V): 120
Input Current (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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71					71			
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60					60			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52					52			
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4624	4624	4624
5°	4656	4598	4636
10°	4636	4636	4752
15°	4603	4727	4999
20°	4548	4864	5384
25°	4484	5048	5872
30°	4406	5272	6227
35°	4290	5481	6024
40°	4175	5623	5331
45°	4049	5545	4747
50°	3905	5102	4344
55°	3735	4618	3994
60°	3557	4227	3672
65°	3383	3868	3395
70°	3130	3507	3074
75°	2828	3121	2753
80°	2368	2618	2256
85°	1812	1923	1701

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 5545 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.5	3.1
10°-20°	108.5	9.4
20°-30°	177.8	15.3
30°-40°	224.9	19.4
40°-50°	219.8	18.9
50°-60°	180.5	15.6
60°-70°	127.4	11.0
70°-80°	67.9	5.9
80°-90°	16.5	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°	322.8	27.8
0°-40°	547.8	47.2
0°-60°	948.1	81.7
0°-90°	1159.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1159.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	384	384	384	384	384	
5°	385	383	380	384	383	37
15°	369	371	379	396	400	104
25°	337	347	380	426	441	155
35°	292	312	372	416	409	183
45°	238	264	325	294	278	183
55°	178	204	220	198	190	159
65°	119	136	136	124	119	117
75°	61	68	67	61	59	64
85°	13	14	14	13	12	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	383.5	383.5	383.5	383.5	383.5
2.5°	385.9	384.7	380.7	384.3	383.1
5°	384.7	383.1	379.9	383.9	383.1
7.5°	382.3	381.5	379.1	385.1	384.7
10°	378.7	378.3	378.7	387.4	388.2
12.5°	374.8	375.2	378.7	391.0	393.8
15°	368.8	370.8	378.7	395.8	400.5
17.5°	362.5	365.6	378.7	402.1	409.3
20°	354.5	360.1	379.1	408.9	419.6
22.5°	346.6	353.3	379.1	418.0	431.1
25°	337.1	347.0	379.5	425.5	441.4
27.5°	326.8	338.7	379.9	431.5	447.3
30°	316.5	330.7	378.7	433.8	447.3
32.5°	304.2	321.6	376.3	429.9	433.8
35°	291.5	311.7	372.4	415.6	409.3
37.5°	279.6	301.0	367.2	389.4	374.4
40°	265.3	289.5	357.3	356.1	338.7
42.5°	251.8	277.2	344.6	322.4	308.1
45°	237.5	264.5	325.2	293.5	278.4
47.5°	222.5	250.6	300.6	266.1	255.4
50°	208.2	236.4	272.0	241.1	231.6
52.5°	192.7	221.3	244.7	218.9	210.6
55°	177.7	204.2	219.7	197.5	190.0
57.5°	162.6	187.6	196.7	177.3	171.3
60°	147.5	170.1	175.3	158.6	152.3
62.5°	132.9	153.9	155.5	140.8	135.2
65°	118.6	135.6	135.6	123.7	119.0
67.5°	103.5	118.2	117.4	106.3	103.5
70°	88.8	101.1	99.5	90.4	87.2
72.5°	75.0	84.1	82.9	75.7	72.2
75°	60.7	68.2	67.0	60.7	59.1
77.5°	47.2	52.3	51.2	46.8	45.6
80°	34.1	38.1	37.7	34.5	32.5
82.5°	23.0	25.0	24.6	22.6	21.4
85°	13.1	14.3	13.9	12.7	12.3
87.5°	5.2	5.9	6.3	5.9	5.6
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	16.96	18.56	17.32	18.88	19.19	16.69	18.29	17.05	18.60	18.92
	3H	18.53	19.97	18.91	20.30	20.66	18.20	19.65	18.58	19.97	20.33
	4H	19.08	20.44	19.48	20.79	21.16	18.74	20.10	19.13	20.44	20.82
	6H	19.44	20.70	19.86	21.07	21.46	19.09	20.35	19.50	20.72	21.11
	8H	19.54	20.74	19.97	21.13	21.53	19.19	20.39	19.61	20.78	21.18
	12H	19.60	20.75	20.03	21.13	21.56	19.24	20.39	19.67	20.77	21.20
4H	2H	17.60	18.96	18.00	19.30	19.68	17.38	18.74	17.78	19.09	19.47
	3H	19.40	20.54	19.81	20.94	21.34	19.10	20.23	19.51	20.63	21.03
	4H	20.09	21.12	20.52	21.53	21.97	19.74	20.76	20.17	21.17	21.61
	6H	20.57	21.47	21.03	21.91	22.36	20.20	21.09	20.65	21.53	21.99
	8H	20.71	21.54	21.17	21.98	22.45	20.32	21.16	20.78	21.60	22.07
	12H	20.79	21.54	21.27	22.02	22.49	20.40	21.15	20.88	21.63	22.10
8H	4H	20.36	21.19	20.82	21.63	22.10	20.04	20.88	20.51	21.32	21.79
	6H	20.95	21.64	21.44	22.13	22.61	20.60	21.30	21.10	21.79	22.26
	8H	21.14	21.76	21.65	22.27	22.76	20.78	21.40	21.29	21.91	22.40
	12H	21.28	21.83	21.79	22.32	22.89	20.91	21.46	21.42	21.95	22.52
12H	4H	20.37	21.12	20.85	21.60	22.07	20.07	20.82	20.55	21.30	21.77
	6H	20.98	21.60	21.49	22.11	22.60	20.65	21.27	21.16	21.78	22.26
	8H	21.22	21.77	21.73	22.26	22.83	20.88	21.43	21.38	21.92	22.48