

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: P1439821

Luminaire Tested: S123DR-S290D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439821
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-S290D940-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

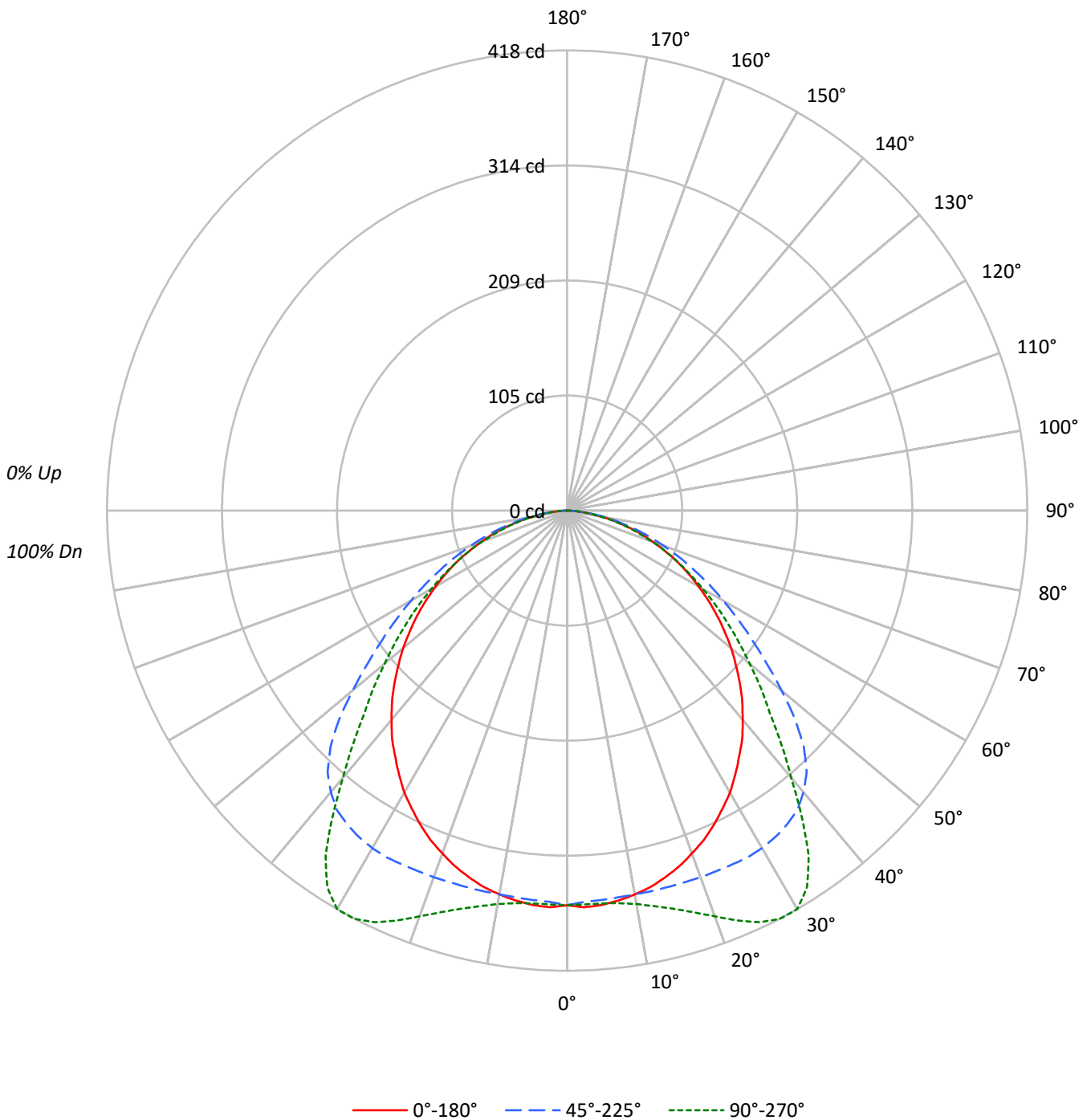
Lumens per Lamp: N/A
Luminaire Lumens: 1084.1 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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°	4321	4321	4321
5°	4352	4298	4334
10°	4334	4334	4443
15°	4302	4419	4673
20°	4252	4547	5032
25°	4192	4718	5489
30°	4118	4928	5821
35°	4009	5123	5630
40°	3903	5257	4983
45°	3785	5183	4436
50°	3650	4770	4061
55°	3491	4317	3733
60°	3325	3950	3431
65°	3161	3617	3172
70°	2926	3278	2873
75°	2641	2916	2571
80°	2215	2444	2111
85°	1688	1798	1591

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 5183 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.1	3.1
10°-20°	101.4	9.4
20°-30°	166.2	15.3
30°-40°	210.3	19.4
40°-50°	205.4	18.9
50°-60°	168.8	15.6
60°-70°	119.0	11.0
70°-80°	63.4	5.9
80°-90°	15.5	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°	301.8	27.8
0°-40°	512.0	47.2
0°-60°	886.2	81.7
0°-90°	1084.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1084.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	358	358	358	358	358	
5°	360	358	355	359	358	34
15°	345	347	354	370	374	97
25°	315	324	355	398	413	145
35°	272	291	348	388	382	171
45°	222	247	304	274	260	171
55°	166	191	205	185	178	149
65°	111	127	127	116	111	109
75°	57	64	63	57	55	60
85°	12	13	13	12	12	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	358.4	358.4	358.4	358.4	358.4
2.5°	360.7	359.6	355.8	359.2	358.1
5°	359.6	358.1	355.1	358.8	358.1
7.5°	357.3	356.6	354.4	359.9	359.6
10°	354.0	353.6	354.0	362.1	362.9
12.5°	350.3	350.7	354.0	365.5	368.1
15°	344.7	346.6	354.0	369.9	374.4
17.5°	338.8	341.8	354.0	375.9	382.5
20°	331.4	336.6	354.4	382.2	392.2
22.5°	324.0	330.3	354.4	390.7	402.9
25°	315.1	324.3	354.7	397.7	412.6
27.5°	305.4	316.6	355.1	403.3	418.1
30°	295.8	309.1	354.0	405.5	418.1
32.5°	284.3	300.6	351.8	401.8	405.5
35°	272.4	291.3	348.1	388.5	382.5
37.5°	261.3	281.3	343.2	364.0	349.9
40°	248.0	270.6	334.0	332.9	316.6
42.5°	235.4	259.1	322.1	301.4	288.0
45°	222.0	247.2	304.0	274.3	260.2
47.5°	207.9	234.3	281.0	248.7	238.7
50°	194.6	220.9	254.3	225.4	216.5
52.5°	180.1	206.8	228.7	204.6	196.8
55°	166.1	190.9	205.4	184.6	177.6
57.5°	152.0	175.3	183.9	165.7	160.1
60°	137.9	159.0	163.8	148.3	142.3
62.5°	124.2	143.8	145.3	131.6	126.4
65°	110.8	126.8	126.8	115.7	111.2
67.5°	96.7	110.5	109.7	99.3	96.7
70°	83.0	94.5	93.0	84.5	81.5
72.5°	70.1	78.6	77.5	70.8	67.5
75°	56.7	63.8	62.6	56.7	55.2
77.5°	44.1	48.9	47.8	43.7	42.6
80°	31.9	35.6	35.2	32.2	30.4
82.5°	21.5	23.4	23.0	21.1	20.0
85°	12.2	13.3	13.0	11.9	11.5
87.5°	4.8	5.6	5.9	5.6	5.2
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	16.72	18.33	17.09	18.64	18.96	16.45	18.06	16.82	18.37	18.68
	3H	18.29	19.74	18.67	20.07	20.43	17.96	19.41	18.34	19.74	20.10
	4H	18.84	20.20	19.24	20.55	20.93	18.50	19.86	18.90	20.21	20.58
	6H	19.21	20.47	19.62	20.83	21.22	18.86	20.12	19.27	20.48	20.87
	8H	19.31	20.51	19.73	20.90	21.30	18.95	20.15	19.38	20.54	20.94
	12H	19.36	20.51	19.79	20.89	21.32	19.00	20.15	19.43	20.53	20.96
4H	2H	17.36	18.72	17.76	19.07	19.45	17.15	18.51	17.55	18.86	19.23
	3H	19.17	20.30	19.58	20.70	21.10	18.86	20.00	19.27	20.40	20.80
	4H	19.86	20.88	20.29	21.30	21.73	19.50	20.52	19.93	20.94	21.38
	6H	20.34	21.23	20.79	21.67	22.13	19.96	20.85	20.42	21.29	21.75
	8H	20.47	21.31	20.93	21.75	22.22	20.09	20.92	20.55	21.36	21.83
	12H	20.56	21.31	21.04	21.78	22.25	20.17	20.92	20.65	21.39	21.86
8H	4H	20.12	20.96	20.58	21.40	21.87	19.81	20.64	20.27	21.09	21.55
	6H	20.71	21.41	21.21	21.89	22.37	20.37	21.06	20.86	21.55	22.02
	8H	20.91	21.53	21.42	22.04	22.52	20.55	21.17	21.06	21.68	22.16
	12H	21.05	21.60	21.55	22.09	22.65	20.68	21.23	21.18	21.72	22.28
12H	4H	20.14	20.89	20.62	21.36	21.83	19.83	20.58	20.32	21.06	21.53
	6H	20.74	21.37	21.26	21.87	22.36	20.41	21.03	20.92	21.54	22.03
	8H	20.99	21.54	21.50	22.03	22.59	20.64	21.19	21.15	21.68	22.24