

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: P1439681

Luminaire Tested: S122DR-S290D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439681
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2602-702-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DR-S290D840-X4F0-XX-UDD-FLB-W
Description: DEFINE 2, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

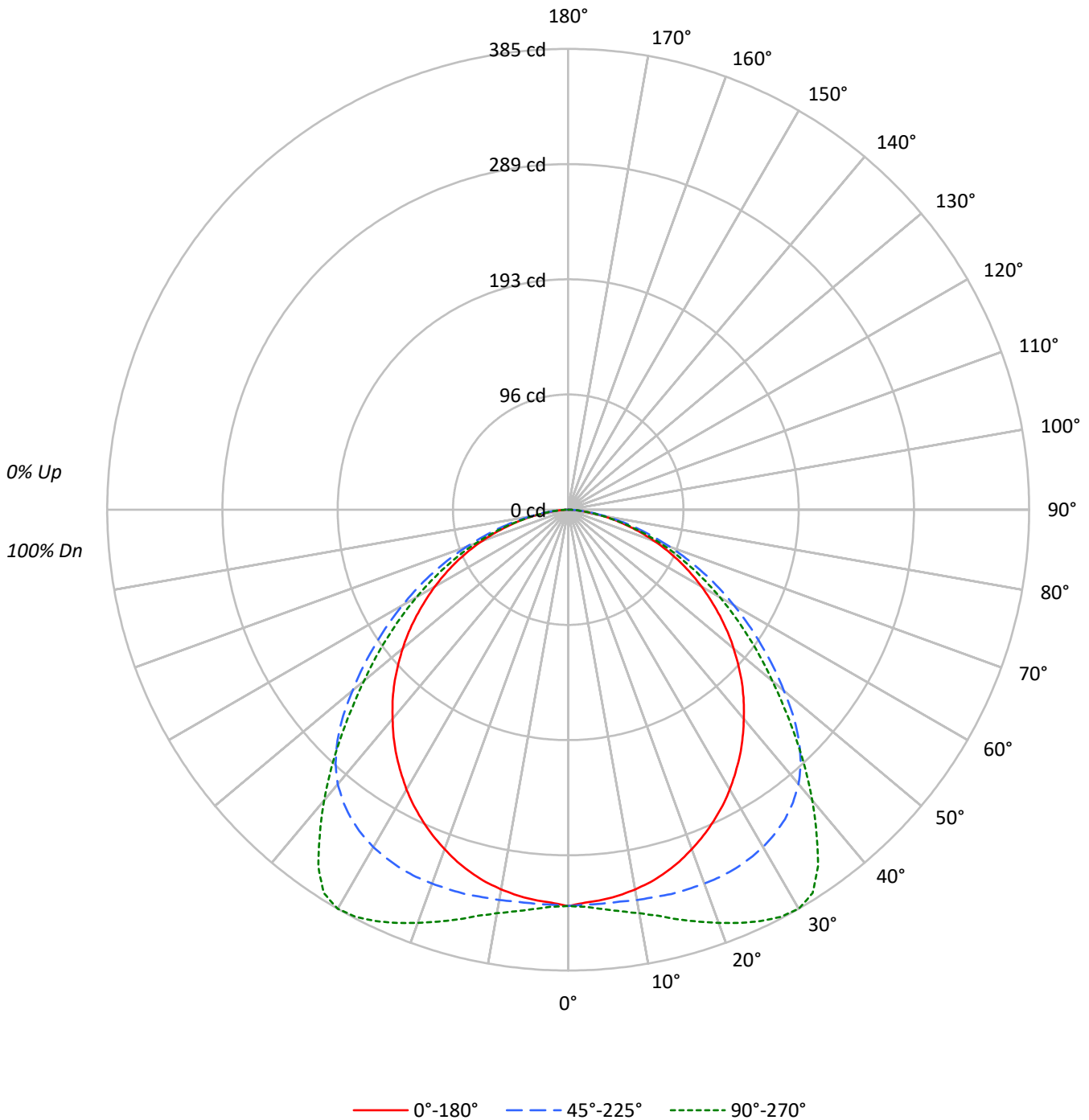
Lumens per Lamp: N/A
Luminaire Lumens: 1018.3 lumens
Efficiency: N/A
Efficacy: 80.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.56 / 1.51
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1439681

CATALOG NUMBER: S122DR-S290D840-X4F0-XX-UDD-FLB-W

Luminous Intensity Polar Plot





TEST NUMBER: P1439681

CATALOG NUMBER: S122DR-S290D840-X4F0-XX-UDD-FLB-W

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	101	97	107	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	91	85	79	97	90	84	78	86	81	76	83	79	75	80	76	73	71					71			
3	91	80	72	66	88	79	71	66	76	70	64	73	68	63	71	66	62	60					60			
4	83	71	63	56	81	70	62	56	68	60	55	65	59	54	63	58	53	51					51			
5	76	64	55	48	74	63	54	48	61	53	47	59	52	47	57	51	46	44					44			
6	71	57	48	42	69	56	48	42	55	47	42	53	46	41	51	45	41	39					39			
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34					34			
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30					30			
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	34	29	27					27			
10	53	40	32	27	52	39	32	27	38	31	27	38	31	26	37	31	26	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6273	6273	6273
5°	6223	6282	6371
10°	6197	6370	6585
15°	6157	6520	6951
20°	6085	6702	7405
25°	6004	6913	7929
30°	5907	7121	8420
35°	5787	7299	8414
40°	5644	7402	7847
45°	5503	7304	7186
50°	5317	6929	6561
55°	5107	6501	6031
60°	4877	6051	5547
65°	4613	5577	5057
70°	4243	4985	4531
75°	3748	4319	3909
80°	3099	3426	3099
85°	2065	2239	2152

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7360 cd/sqm



TEST NUMBER: P1439681

CATALOG NUMBER: S122DR-S290D840-X4F0-XX-UDD-FLB-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.7	3.1
10°-20°	94.6	9.3
20°-30°	153.5	15.1
30°-40°	194.2	19.1
40°-50°	194.5	19.1
50°-60°	162.9	16.0
60°-70°	114.8	11.3
70°-80°	59.2	5.8
80°-90°	13.1	1.3
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°	279.7	27.5
0°-40°	473.9	46.5
0°-60°	831.2	81.6
0°-90°	1018.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1018.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	331	331	331	331	331	
5°	327	333	330	332	335	31
15°	314	323	332	346	354	88
25°	287	303	331	363	379	132
35°	250	270	316	356	364	156
45°	205	227	273	275	268	158
55°	155	174	197	189	183	138
65°	103	114	124	117	113	102
75°	51	56	59	55	53	54
85°	10	10	10	10	10	12
90°	0	0	0	0	0	



TEST NUMBER: P1439681

CATALOG NUMBER: S122DR-S290D840-X4F0-XX-UDD-FLB-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	331.1	331.1	331.1	331.1	331.1
2.5°	328.5	333.7	330.3	330.7	332.0
5°	327.2	332.8	330.3	332.0	335.0
7.5°	325.1	331.1	330.3	333.7	338.4
10°	322.1	329.0	331.1	337.1	342.3
12.5°	318.6	325.9	331.5	341.0	347.5
15°	313.9	322.9	332.4	345.8	354.4
17.5°	308.3	319.1	332.4	350.9	360.8
20°	301.8	314.3	332.4	355.2	367.3
22.5°	294.9	308.7	332.0	359.1	373.7
25°	287.2	302.7	330.7	363.0	379.3
27.5°	279.0	295.8	328.5	366.0	383.6
30°	270.0	288.1	325.5	367.3	384.9
32.5°	260.1	279.9	321.2	364.7	379.8
35°	250.2	270.4	315.6	356.5	363.8
37.5°	239.4	260.5	308.3	340.6	340.6
40°	228.2	249.7	299.3	318.6	317.3
42.5°	217.0	238.5	287.6	297.1	292.8
45°	205.4	226.9	272.6	274.7	268.2
47.5°	192.9	214.0	254.9	251.9	244.6
50°	180.4	201.1	235.1	229.9	222.6
52.5°	167.9	187.7	216.1	208.8	202.4
55°	154.6	173.5	196.8	188.6	182.6
57.5°	141.7	159.3	178.3	169.2	164.0
60°	128.7	144.7	159.7	151.1	146.4
62.5°	115.8	129.6	142.1	133.5	129.2
65°	102.9	114.5	124.4	116.7	112.8
67.5°	89.6	99.9	106.8	99.9	97.3
70°	76.6	84.8	90.0	84.0	81.8
72.5°	63.7	70.6	74.1	69.3	67.2
75°	51.2	56.4	59.0	54.7	53.4
77.5°	39.2	43.1	44.3	41.3	39.6
80°	28.4	30.6	31.4	29.3	28.4
82.5°	17.7	19.4	20.2	18.5	18.1
85°	9.5	10.3	10.3	10.3	9.9
87.5°	3.4	4.3	4.3	4.3	3.9
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1439681
 CATALOG NUMBER: S122DR-S290D840-X4F0-XX-UDD-FLB-W

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	17.86	19.48	18.23	19.79	20.11	18.38	19.99	18.74	20.30	20.62
	3H	19.44	20.89	19.81	21.22	21.58	19.85	21.30	20.22	21.63	21.99
	4H	19.97	21.34	20.37	21.69	22.06	20.34	21.70	20.74	22.05	22.43
	6H	20.31	21.58	20.73	21.94	22.34	20.64	21.90	21.05	22.27	22.66
	8H	20.40	21.60	20.82	21.99	22.39	20.71	21.92	21.14	22.31	22.71
	12H	20.44	21.59	20.86	21.97	22.40	20.75	21.90	21.18	22.28	22.71
4H	2H	18.62	19.98	19.02	20.33	20.71	19.02	20.38	19.41	20.73	21.11
	3H	20.39	21.53	20.80	21.93	22.33	20.68	21.82	21.09	22.22	22.62
	4H	21.04	22.07	21.47	22.48	22.92	21.28	22.30	21.71	22.72	23.16
	6H	21.48	22.38	21.94	22.82	23.27	21.67	22.57	22.13	23.01	23.47
	8H	21.59	22.43	22.05	22.87	23.34	21.77	22.61	22.24	23.05	23.52
	12H	21.65	22.40	22.13	22.88	23.35	21.83	22.58	22.31	23.06	23.53
8H	4H	21.32	22.16	21.78	22.60	23.07	21.54	22.37	22.00	22.82	23.28
	6H	21.86	22.55	22.35	23.04	23.52	22.02	22.71	22.51	23.20	23.68
	8H	22.02	22.64	22.53	23.15	23.63	22.16	22.79	22.67	23.29	23.78
	12H	22.12	22.67	22.63	23.16	23.73	22.26	22.81	22.77	23.30	23.87
12H	4H	21.34	22.09	21.82	22.56	23.03	21.55	22.30	22.03	22.78	23.25
	6H	21.89	22.51	22.40	23.02	23.51	22.05	22.67	22.56	23.18	23.66
	8H	22.09	22.64	22.60	23.13	23.70	22.23	22.78	22.74	23.28	23.84