

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: P1055409

Luminaire Tested: S122R3DR-H865D940-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055409
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-1)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H865D940-X4F0-XX-UDD-F-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

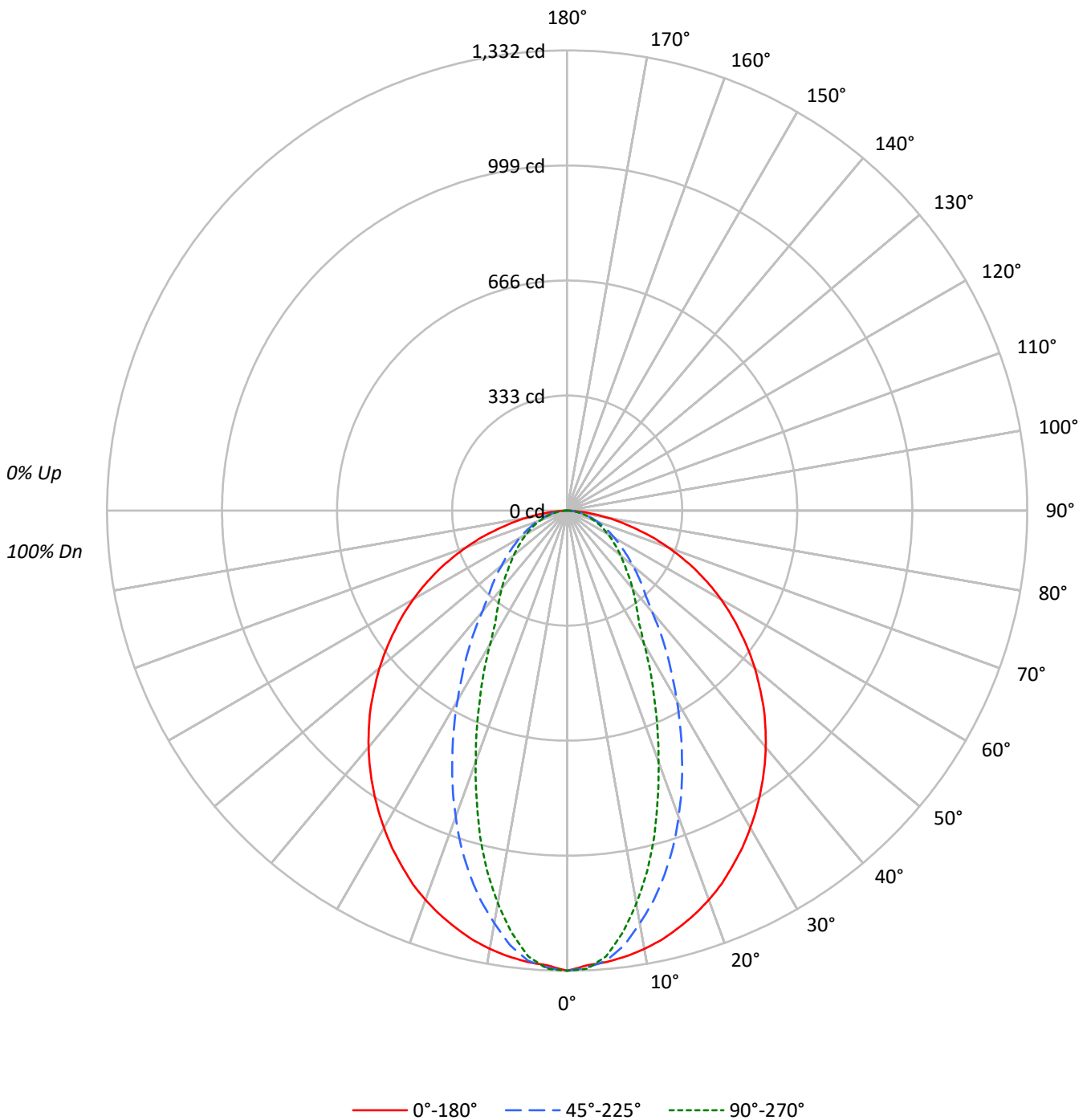
Lumens per Lamp: N/A
Luminaire Lumens: 2014.5 lumens
Efficiency: N/A
Efficacy: 65.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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

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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	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89					87				
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77					75				
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68					66				
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60					58				
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54					52				
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48					46				
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44					42				
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40					38				
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37					35				
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34					32				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25234	25234	25234
5°	24948	24864	24630
10°	24786	23330	22216
15°	24508	21383	19112
20°	24182	19017	15605
25°	23699	16435	12455
30°	23194	13887	9720
35°	22666	11615	8164
40°	22115	9420	7271
45°	21542	8236	6505
50°	20909	7286	5942
55°	20195	6583	5516
60°	19495	5991	5149
65°	18573	5492	4842
70°	17211	5118	4564
75°	15240	4648	4319
80°	13005	4375	4004
85°	8956	3869	3630

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 21542 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.0	6.1
10°-20°	308.1	15.3
20°-30°	379.7	18.8
30°-40°	364.3	18.1
40°-50°	314.2	15.6
50°-60°	243.8	12.1
60°-70°	166.9	8.3
70°-80°	90.6	4.5
80°-90°	24.8	1.2
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°	809.9	40.2
0°-40°	1174.2	58.3
0°-60°	1732.2	86.0
0°-90°	2014.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2014.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1332	1332	1332	1332	1332	
5°	1312	1331	1307	1291	1295	125
15°	1250	1212	1090	1001	974	352
25°	1134	1012	786	641	596	523
35°	980	777	502	374	353	613
45°	804	541	307	254	243	620
55°	611	325	199	173	167	547
65°	414	177	122	111	108	409
75°	208	81	64	60	59	223
85°	41	20	18	18	17	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1331.9	1331.9	1331.9	1331.9	1331.9
2.5°	1317.4	1339.7	1324.1	1324.1	1327.4
5°	1311.8	1330.8	1307.4	1290.7	1295.1
7.5°	1301.8	1315.2	1268.4	1232.8	1231.7
10°	1288.4	1289.6	1212.7	1165.9	1154.8
12.5°	1271.7	1253.9	1155.9	1085.8	1069.1
15°	1249.5	1211.6	1090.2	1001.1	974.4
17.5°	1226.1	1168.2	1020.1	908.7	872.0
20°	1199.4	1115.8	943.2	816.3	774.0
22.5°	1169.3	1065.7	866.4	727.2	682.6
25°	1133.7	1012.3	786.2	641.4	595.8
27.5°	1099.1	957.7	709.4	565.7	518.9
30°	1060.2	898.7	634.8	493.3	444.3
32.5°	1021.2	838.5	565.7	424.3	387.5
35°	980.0	777.3	502.2	374.2	353.0
37.5°	937.7	717.2	442.1	340.8	321.8
40°	894.2	657.0	380.9	308.5	294.0
42.5°	849.7	598.0	338.5	281.7	268.4
45°	804.0	541.2	307.4	253.9	242.8
47.5°	755.0	484.4	277.3	230.5	220.5
50°	709.4	429.9	247.2	209.4	201.6
52.5°	660.4	376.4	222.7	190.4	183.7
55°	611.4	325.2	199.3	172.6	167.0
57.5°	563.5	276.2	177.1	155.9	151.5
60°	514.5	237.2	158.1	140.3	135.9
62.5°	464.4	206.0	140.3	125.8	121.4
65°	414.3	177.1	122.5	111.4	108.0
67.5°	361.9	149.2	106.9	98.0	95.8
70°	310.7	124.7	92.4	84.6	82.4
72.5°	260.6	101.3	78.0	72.4	70.2
75°	208.2	81.3	63.5	60.1	59.0
77.5°	162.6	63.5	51.2	49.0	47.9
80°	119.2	46.8	40.1	37.9	36.7
82.5°	79.1	32.3	29.0	27.8	26.7
85°	41.2	20.0	17.8	17.8	16.7
87.5°	13.4	8.9	8.9	8.9	7.8
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	20.83	22.29	21.19	22.61	22.92	15.63	17.10	16.00	17.41	17.73
	3H	23.15	24.47	23.53	24.80	25.16	17.28	18.59	17.66	18.92	19.29
	4H	24.05	25.28	24.45	25.63	26.01	17.91	19.15	18.31	19.50	19.88
	6H	24.71	25.85	25.13	26.22	26.61	18.41	19.55	18.82	19.91	20.31
	8H	24.92	26.00	25.35	26.39	26.80	18.58	19.66	19.00	20.05	20.45
	12H	25.04	26.07	25.47	26.46	26.89	18.69	19.73	19.12	20.11	20.54
4H	2H	20.84	22.08	21.24	22.43	22.80	16.35	17.58	16.75	17.93	18.31
	3H	23.25	24.28	23.66	24.68	25.08	18.19	19.22	18.60	19.62	20.02
	4H	24.18	25.11	24.62	25.52	25.96	18.94	19.86	19.37	20.28	20.72
	6H	24.96	25.76	25.42	26.21	26.67	19.56	20.36	20.01	20.80	21.26
	8H	25.23	25.98	25.70	26.43	26.89	19.77	20.52	20.24	20.97	21.43
	12H	25.41	26.08	25.89	26.56	27.03	19.93	20.60	20.42	21.08	21.55
8H	4H	24.18	24.93	24.64	25.37	25.84	19.32	20.07	19.78	20.51	20.98
	6H	24.98	25.60	25.48	26.09	26.57	20.06	20.68	20.56	21.17	21.65
	8H	25.29	25.84	25.80	26.35	26.84	20.35	20.91	20.87	21.42	21.91
	12H	25.52	26.00	26.03	26.50	27.06	20.60	21.08	21.11	21.58	22.14
12H	4H	24.16	24.82	24.64	25.30	25.78	19.38	20.04	19.86	20.52	21.00
	6H	24.96	25.51	25.47	26.02	26.51	20.14	20.70	20.66	21.21	21.70
	8H	25.29	25.78	25.80	26.28	26.84	20.50	20.99	21.01	21.48	22.05