

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: P1055308

Luminaire Tested: S122R3DR-H290D835-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055308
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-2)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H290D835-X4F0-XX-UDD-F-B
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

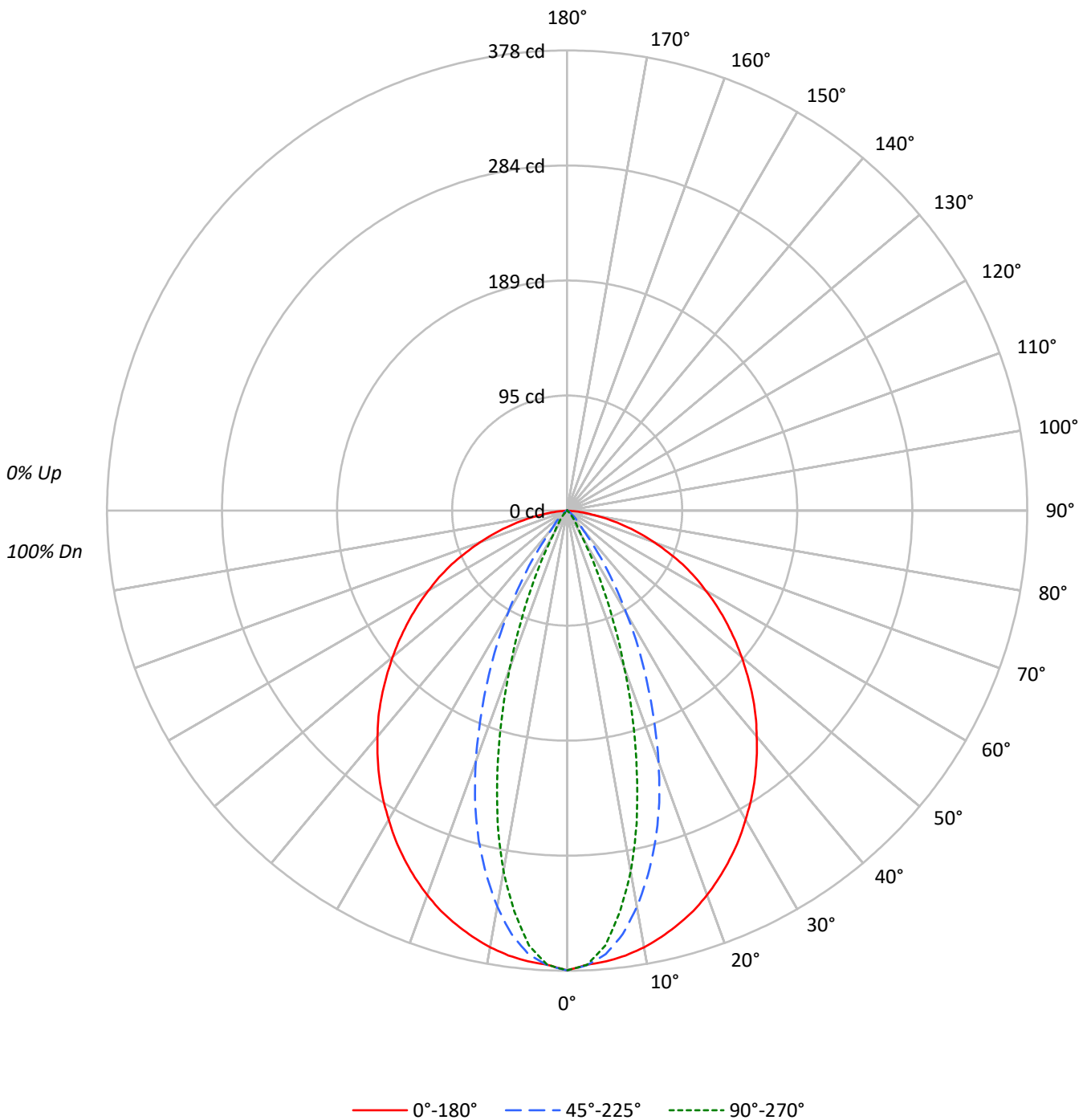
Lumens per Lamp: N/A
Luminaire Lumens: 343.6 lumens
Efficiency: N/A
Efficacy: 29.4 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	109	106	103	110	106	104	101	102	100	98	99	97	95	95	94	92	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	81
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74
4	92	83	77	72	90	82	76	71	80	75	70	78	73	70	76	72	69	67
5	87	77	70	65	85	76	70	65	74	69	64	72	68	64	71	67	63	61
6	82	72	65	60	80	71	64	59	69	63	59	68	63	59	66	62	58	57
7	77	67	60	55	76	66	59	55	65	59	55	63	58	54	62	57	54	52
8	73	62	56	51	72	62	55	51	61	55	51	60	54	50	59	54	50	49
9	70	59	52	48	68	58	52	47	57	51	47	56	51	47	55	50	47	45
10	66	55	49	45	65	55	49	44	54	48	44	53	48	44	52	48	44	43

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7156	7156	7156
5°	7069	6953	6820
10°	7008	6356	5789
15°	6906	5502	4335
20°	6776	4421	2774
25°	6608	3240	1426
30°	6412	2118	466
35°	6217	1175	271
40°	5993	472	151
45°	5771	313	59
50°	5515	180	27
55°	5262	86	13
60°	4987	34	0
65°	4689	18	0
70°	4210	22	0
75°	3623	29	0
80°	2749	0	0
85°	1130	87	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5771 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.9	9.9
10°-20°	78.7	22.9
20°-30°	79.9	23.2
30°-40°	59.9	17.4
40°-50°	42.0	12.2
50°-60°	25.7	7.5
60°-70°	15.3	4.4
70°-80°	7.0	2.0
80°-90°	1.3	0.4
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°	192.4	56.0
0°-40°	252.4	73.4
0°-60°	320.0	93.1
0°-90°	343.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	343.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	378	378	378	378	378	
5°	372	375	366	359	359	35
15°	352	333	280	238	221	99
25°	316	260	155	89	68	146
35°	269	175	51	15	12	168
45°	215	92	12	4	2	166
55°	159	28	3	1	0	142
65°	105	8	0	0	0	103
75°	50	1	0	0	0	53
85°	5	0	0	0	0	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	377.7	377.7	377.7	377.7	377.7
2.5°	373.4	379.1	373.8	373.0	373.4
5°	371.7	375.1	365.6	358.6	358.6
7.5°	368.6	368.6	350.8	336.5	332.2
10°	364.3	359.5	330.4	307.4	300.9
12.5°	358.6	347.4	306.5	274.0	263.6
15°	352.1	333.0	280.5	237.5	221.0
17.5°	344.8	317.0	251.4	198.0	178.9
20°	336.1	299.6	219.3	157.6	137.6
22.5°	326.5	280.5	186.7	121.6	100.3
25°	316.1	260.5	155.0	88.6	68.2
27.5°	305.2	239.7	125.9	60.8	41.7
30°	293.1	218.0	96.8	36.0	21.3
32.5°	281.4	197.1	72.5	19.5	15.6
35°	268.8	175.0	50.8	15.2	11.7
37.5°	255.7	154.1	31.3	11.3	8.7
40°	242.3	132.9	19.1	8.2	6.1
42.5°	229.3	112.9	15.2	5.6	3.9
45°	215.4	92.5	11.7	3.5	2.2
47.5°	201.0	73.8	8.7	2.2	1.3
50°	187.1	57.3	6.1	1.3	0.9
52.5°	173.2	42.1	3.9	0.9	0.4
55°	159.3	28.2	2.6	0.9	0.4
57.5°	145.5	20.0	1.7	0.4	0.4
60°	131.6	15.6	0.9	0.4	0.0
62.5°	118.5	12.2	0.9	0.4	0.4
65°	104.6	8.2	0.4	0.4	0.0
67.5°	89.9	5.2	0.4	0.4	0.0
70°	76.0	3.0	0.4	0.4	0.0
72.5°	62.5	1.7	0.4	0.4	0.0
75°	49.5	0.9	0.4	0.4	0.0
77.5°	36.9	0.4	0.0	0.4	0.0
80°	25.2	0.0	0.0	0.4	0.0
82.5°	14.8	0.0	0.0	0.4	0.0
85°	5.2	0.0	0.4	0.4	0.0
87.5°	0.0	0.0	0.4	0.4	0.0
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	13.05	14.31	13.42	14.63	14.94	0.00	0.00	0.00	0.00	0.00
	3H	16.79	17.91	17.17	18.24	18.61	0.00	0.00	0.00	0.00	0.00
	4H	18.10	19.14	18.51	19.49	19.88	0.00	0.00	0.00	0.00	0.00
	6H	18.96	19.91	19.37	20.28	20.68	0.00	0.00	0.00	0.00	0.00
	8H	19.17	20.08	19.60	20.47	20.87	0.00	0.00	0.00	0.00	0.00
	12H	19.24	20.10	19.67	20.48	20.91	0.00	0.00	0.00	0.00	0.00
4H	2H	12.81	13.85	13.21	14.20	14.58	0.00	0.00	0.00	0.00	0.00
	3H	16.55	17.40	16.96	17.80	18.21	0.00	0.00	0.00	0.00	0.00
	4H	17.84	18.60	18.28	19.02	19.47	0.00	0.00	0.00	0.00	0.00
	6H	18.76	19.42	19.22	19.86	20.33	0.00	0.00	0.00	0.00	0.00
	8H	19.02	19.63	19.49	20.08	20.55	0.00	0.00	0.00	0.00	0.00
	12H	19.12	19.66	19.61	20.14	20.62	0.00	0.00	0.00	0.00	0.00
8H	4H	17.70	18.31	18.17	18.76	19.23	0.00	0.00	0.00	0.00	0.00
	6H	18.60	19.09	19.10	19.59	20.07	0.00	0.00	0.00	0.00	0.00
	8H	18.86	19.30	19.38	19.82	20.31	0.00	0.00	0.00	0.00	0.00
	12H	18.97	19.36	19.49	19.86	20.43	0.00	0.00	0.00	0.00	0.00
12H	4H	17.65	18.19	18.14	18.67	19.14	0.00	0.00	0.00	0.00	0.00
	6H	18.53	18.98	19.06	19.49	19.99	0.00	0.00	0.00	0.00	0.00
	8H	18.81	19.20	19.33	19.70	20.27	0.00	0.00	0.00	0.00	0.00