

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: P1055754

Luminaire Tested: S123R3DR-H340D930-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055754
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H340D930-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

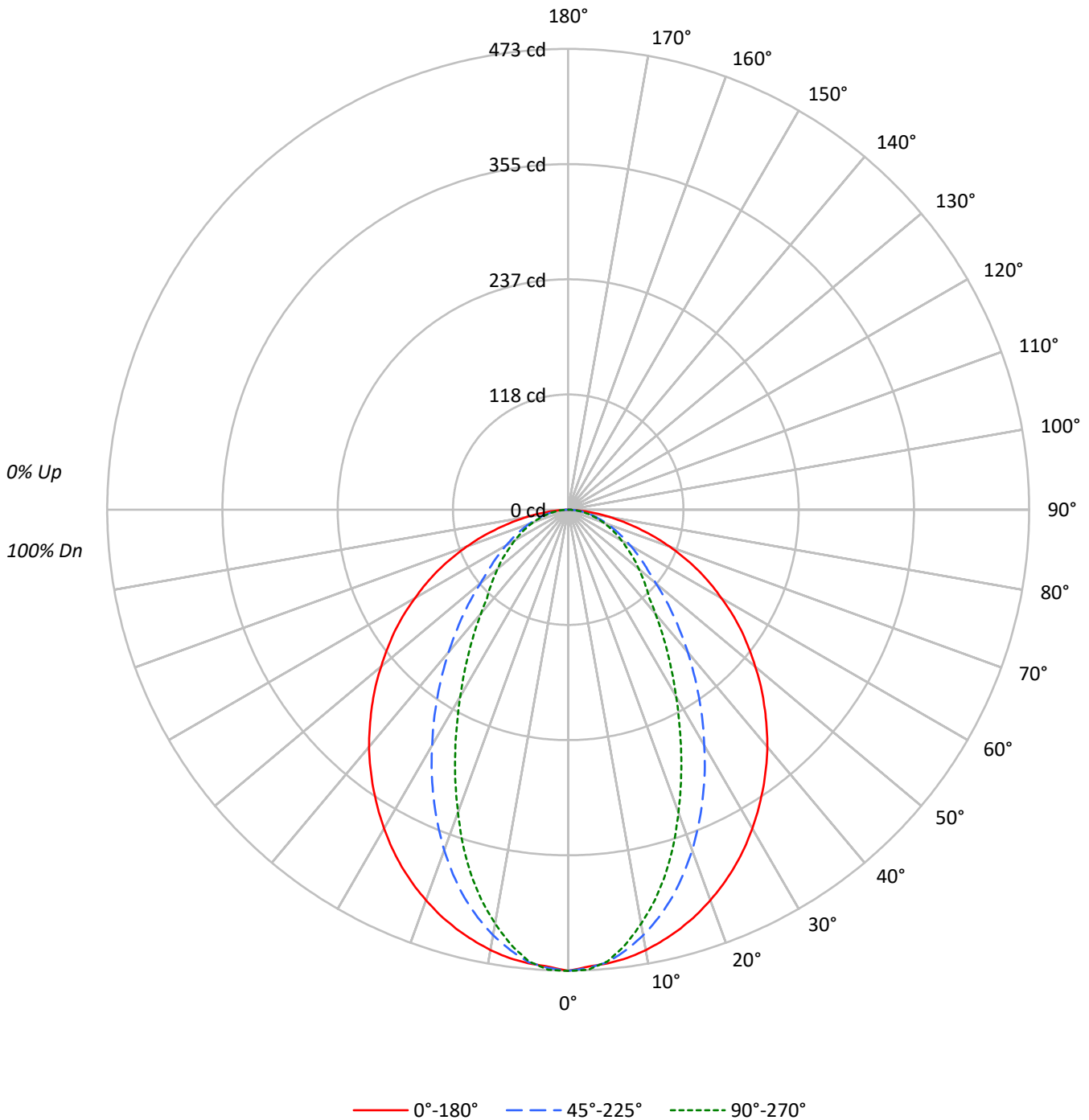
Lumens per Lamp: N/A
Luminaire Lumens: 830.1 lumens
Efficiency: N/A
Efficacy: 70.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5706	5706	5706
5°	5655	5642	5630
10°	5620	5431	5283
15°	5554	5144	4825
20°	5473	4773	4242
25°	5378	4346	3649
30°	5258	3888	3085
35°	5132	3438	2605
40°	5003	3003	2189
45°	4853	2590	1932
50°	4700	2204	1772
55°	4561	1965	1637
60°	4369	1775	1529
65°	4191	1626	1435
70°	3906	1498	1347
75°	3494	1383	1272
80°	2999	1278	1180
85°	2103	1176	1120

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4853 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.9	5.3
10°-20°	116.1	14.0
20°-30°	152.9	18.4
30°-40°	155.2	18.7
40°-50°	134.9	16.3
50°-60°	105.7	12.7
60°-70°	71.8	8.7
70°-80°	38.9	4.7
80°-90°	10.7	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°	312.8	37.7
0°-40°	468.0	56.4
0°-60°	708.6	85.4
0°-90°	830.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	830.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	473	473	473	473	473	
5°	467	473	466	462	465	44
15°	445	439	412	392	387	125
25°	404	380	327	286	274	186
35°	349	307	234	189	177	218
45°	285	228	152	117	113	220
55°	217	151	94	80	78	194
65°	147	81	57	51	50	145
75°	75	38	30	28	27	80
85°	15	9	8	8	8	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	473.3	473.3	473.3	473.3	473.3
2.5°	469.4	475.4	470.8	471.2	472.6
5°	467.3	472.9	466.2	462.0	465.2
7.5°	464.1	468.3	455.9	449.2	450.3
10°	459.1	460.5	443.6	432.9	431.5
12.5°	452.4	449.9	428.7	413.1	410.6
15°	445.0	438.6	412.1	391.9	386.6
17.5°	436.5	425.9	392.6	367.8	359.7
20°	426.6	411.7	372.0	340.5	330.6
22.5°	415.9	396.8	349.7	312.6	302.3
25°	404.3	379.8	326.7	286.0	274.3
27.5°	391.5	362.8	303.4	259.8	246.7
30°	377.7	345.1	279.3	234.3	221.6
32.5°	363.6	326.4	256.3	210.6	198.2
35°	348.7	307.3	233.6	189.0	177.0
37.5°	333.5	287.8	211.7	168.5	157.2
40°	317.9	268.0	190.8	149.4	139.1
42.5°	301.3	248.2	170.6	131.3	123.5
45°	284.6	228.3	151.9	117.2	113.3
47.5°	268.0	208.1	134.2	107.3	103.7
50°	250.6	188.7	117.5	98.1	94.5
52.5°	233.6	169.6	103.7	89.2	86.7
55°	217.0	150.8	93.5	79.6	77.9
57.5°	199.7	132.4	83.2	72.2	70.1
60°	181.2	114.7	73.6	64.4	63.4
62.5°	164.6	98.1	65.1	57.7	56.6
65°	146.9	81.4	57.0	51.0	50.3
67.5°	128.9	67.6	49.6	44.6	44.2
70°	110.8	57.0	42.5	38.6	38.2
72.5°	93.1	47.1	35.8	33.3	32.6
75°	75.0	37.5	29.7	27.6	27.3
77.5°	58.8	29.0	23.7	22.3	21.9
80°	43.2	21.6	18.4	17.3	17.0
82.5°	28.3	14.9	13.1	12.4	12.4
85°	15.2	9.2	8.5	7.8	8.1
87.5°	5.3	3.9	3.9	3.5	3.9
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	16.61	18.10	16.97	18.41	18.73	11.76	13.25	12.12	13.56	13.88
	3H	18.50	19.84	18.87	20.16	20.53	13.38	14.72	13.76	15.05	15.41
	4H	19.25	20.51	19.65	20.86	21.24	14.02	15.28	14.42	15.63	16.01
	6H	19.82	20.98	20.23	21.34	21.74	14.51	15.67	14.92	16.04	16.43
	8H	19.99	21.09	20.42	21.48	21.89	14.68	15.79	15.11	16.18	16.58
	12H	20.09	21.14	20.52	21.53	21.95	14.80	15.86	15.24	16.24	16.67
4H	2H	16.66	17.91	17.06	18.26	18.64	12.49	13.74	12.89	14.09	14.47
	3H	18.67	19.72	19.08	20.12	20.52	14.31	15.35	14.72	15.75	16.15
	4H	19.49	20.43	19.92	20.84	21.28	15.05	15.99	15.49	16.41	16.85
	6H	20.17	20.99	20.63	21.43	21.89	15.66	16.48	16.12	16.92	17.38
	8H	20.40	21.17	20.87	21.61	22.08	15.88	16.64	16.34	17.08	17.55
	12H	20.55	21.24	21.04	21.72	22.19	16.04	16.73	16.53	17.20	17.68
8H	4H	19.51	20.28	19.98	20.72	21.19	15.44	16.20	15.90	16.64	17.11
	6H	20.24	20.87	20.74	21.37	21.84	16.16	16.79	16.66	17.29	17.76
	8H	20.51	21.08	21.03	21.59	22.08	16.45	17.02	16.97	17.53	18.02
	12H	20.72	21.22	21.23	21.71	22.28	16.70	17.20	17.21	17.69	18.25
12H	4H	19.50	20.18	19.98	20.66	21.13	15.49	16.17	15.97	16.65	17.12
	6H	20.23	20.79	20.74	21.30	21.79	16.25	16.81	16.76	17.32	17.81
	8H	20.53	21.03	21.04	21.52	22.09	16.59	17.09	17.10	17.59	18.15