

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: P1055745

Luminaire Tested: S123R3DR-H340D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055745
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-H340D840-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

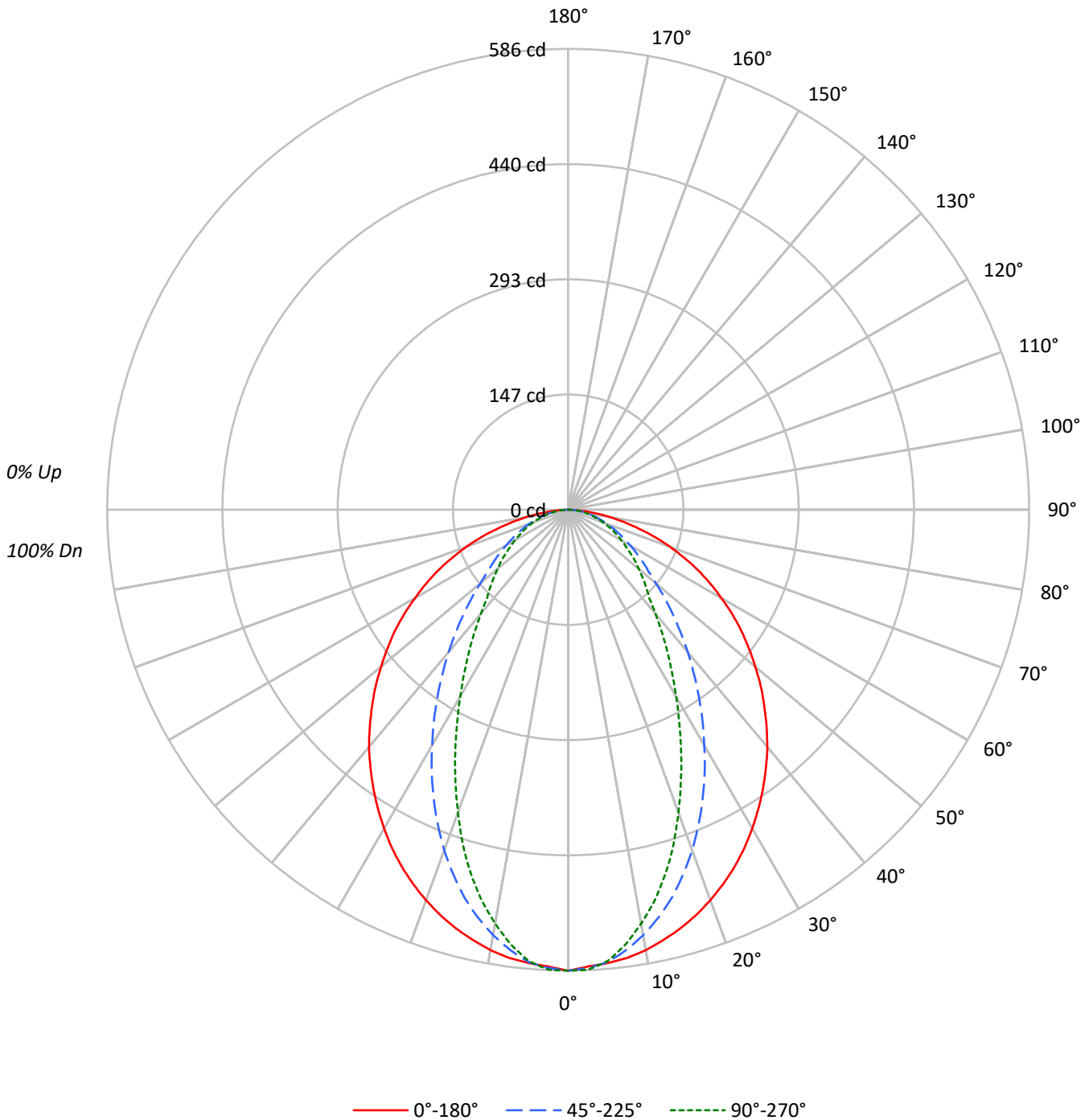
Lumens per Lamp: N/A
Luminaire Lumens: 1028.2 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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°	7067	7067	7067
5°	7005	6989	6973
10°	6962	6726	6544
15°	6880	6371	5976
20°	6779	5912	5254
25°	6661	5384	4520
30°	6514	4817	3821
35°	6357	4259	3226
40°	6198	3719	2712
45°	6010	3207	2392
50°	5822	2731	2196
55°	5650	2434	2028
60°	5413	2199	1893
65°	5192	2014	1777
70°	4836	1854	1671
75°	4332	1714	1574
80°	3715	1583	1458
85°	2614	1452	1397

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6010 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.3	5.3
10°-20°	143.8	14.0
20°-30°	189.4	18.4
30°-40°	192.2	18.7
40°-50°	167.1	16.3
50°-60°	130.9	12.7
60°-70°	88.9	8.7
70°-80°	48.2	4.7
80°-90°	13.3	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°	387.5	37.7
0°-40°	579.8	56.4
0°-60°	877.8	85.4
0°-90°	1028.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1028.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	586	586	586	586	586	
5°	579	586	578	572	576	55
15°	551	543	510	485	479	155
25°	501	470	405	354	340	231
35°	432	381	289	234	219	270
45°	352	283	188	145	140	272
55°	269	187	116	99	96	240
65°	182	101	71	63	62	180
75°	93	46	37	34	34	99
85°	19	11	10	10	10	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	586.2	586.2	586.2	586.2	586.2
2.5°	581.4	588.9	583.2	583.6	585.4
5°	578.8	585.8	577.5	572.2	576.2
7.5°	574.8	580.1	564.8	556.4	557.7
10°	568.7	570.5	549.4	536.3	534.5
12.5°	560.4	557.3	531.0	511.7	508.6
15°	551.2	543.3	510.4	485.4	478.8
17.5°	540.6	527.5	486.3	455.6	445.5
20°	528.4	509.9	460.8	421.8	409.5
22.5°	515.2	491.5	433.2	387.2	374.5
25°	500.7	470.5	404.7	354.3	339.8
27.5°	485.0	449.4	375.8	321.8	305.6
30°	467.9	427.5	346.0	290.3	274.5
32.5°	450.3	404.3	317.5	260.9	245.5
35°	431.9	380.6	289.4	234.1	219.2
37.5°	413.0	356.5	262.2	208.7	194.7
40°	393.8	331.9	236.3	185.0	172.3
42.5°	373.1	307.4	211.3	162.7	153.0
45°	352.5	282.8	188.1	145.1	140.3
47.5°	331.9	257.8	166.2	132.9	128.5
50°	310.4	233.7	145.6	121.5	117.1
52.5°	289.4	210.0	128.5	110.5	107.4
55°	268.8	186.8	115.8	98.7	96.5
57.5°	247.3	164.0	103.0	89.4	86.8
60°	224.5	142.1	91.2	79.8	78.5
62.5°	203.9	121.5	80.7	71.5	70.2
65°	182.0	100.8	70.6	63.1	62.3
67.5°	159.6	83.7	61.4	55.2	54.8
70°	137.2	70.6	52.6	47.8	47.4
72.5°	115.3	58.3	44.3	41.2	40.3
75°	93.0	46.5	36.8	34.2	33.8
77.5°	72.8	36.0	29.4	27.6	27.2
80°	53.5	26.7	22.8	21.5	21.0
82.5°	35.1	18.4	16.2	15.3	15.3
85°	18.9	11.4	10.5	9.6	10.1
87.5°	6.6	4.8	4.8	4.4	4.8
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	17.35	18.84	17.72	19.16	19.47	12.50	13.99	12.86	14.30	14.62
	3H	19.24	20.58	19.62	20.91	21.27	14.13	15.47	14.50	15.79	16.16
	4H	20.00	21.25	20.40	21.60	21.98	14.76	16.02	15.16	16.37	16.75
	6H	20.56	21.72	20.97	22.09	22.48	15.25	16.41	15.67	16.78	17.17
	8H	20.73	21.84	21.16	22.23	22.63	15.42	16.53	15.85	16.92	17.32
	12H	20.83	21.89	21.26	22.27	22.70	15.55	16.60	15.98	16.99	17.42
4H	2H	17.40	18.65	17.80	19.00	19.38	13.23	14.48	13.63	14.83	15.21
	3H	19.42	20.46	19.83	20.86	21.26	15.05	16.09	15.46	16.49	16.89
	4H	20.23	21.17	20.67	21.59	22.03	15.80	16.74	16.23	17.15	17.59
	6H	20.92	21.73	21.37	22.18	22.64	16.40	17.22	16.86	17.66	18.13
	8H	21.15	21.91	21.61	22.35	22.82	16.62	17.38	17.08	17.83	18.29
	12H	21.30	21.98	21.78	22.46	22.93	16.79	17.47	17.27	17.95	18.42
8H	4H	20.26	21.02	20.72	21.47	21.93	16.18	16.94	16.64	17.39	17.86
	6H	20.99	21.62	21.48	22.11	22.59	16.91	17.54	17.41	18.03	18.51
	8H	21.26	21.82	21.77	22.33	22.82	17.19	17.76	17.71	18.27	18.76
	12H	21.47	21.97	21.98	22.46	23.02	17.44	17.94	17.95	18.43	19.00
12H	4H	20.24	20.92	20.73	21.40	21.88	16.23	16.92	16.72	17.39	17.87
	6H	20.97	21.54	21.49	22.05	22.54	16.99	17.56	17.50	18.07	18.56
	8H	21.28	21.78	21.79	22.27	22.83	17.34	17.84	17.85	18.33	18.89