

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: P1055766

Luminaire Tested: S123R3DR-H560D830-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055766
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-H560D830-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, 80 CRI LEDS
Ballast/Driver: -

Summary

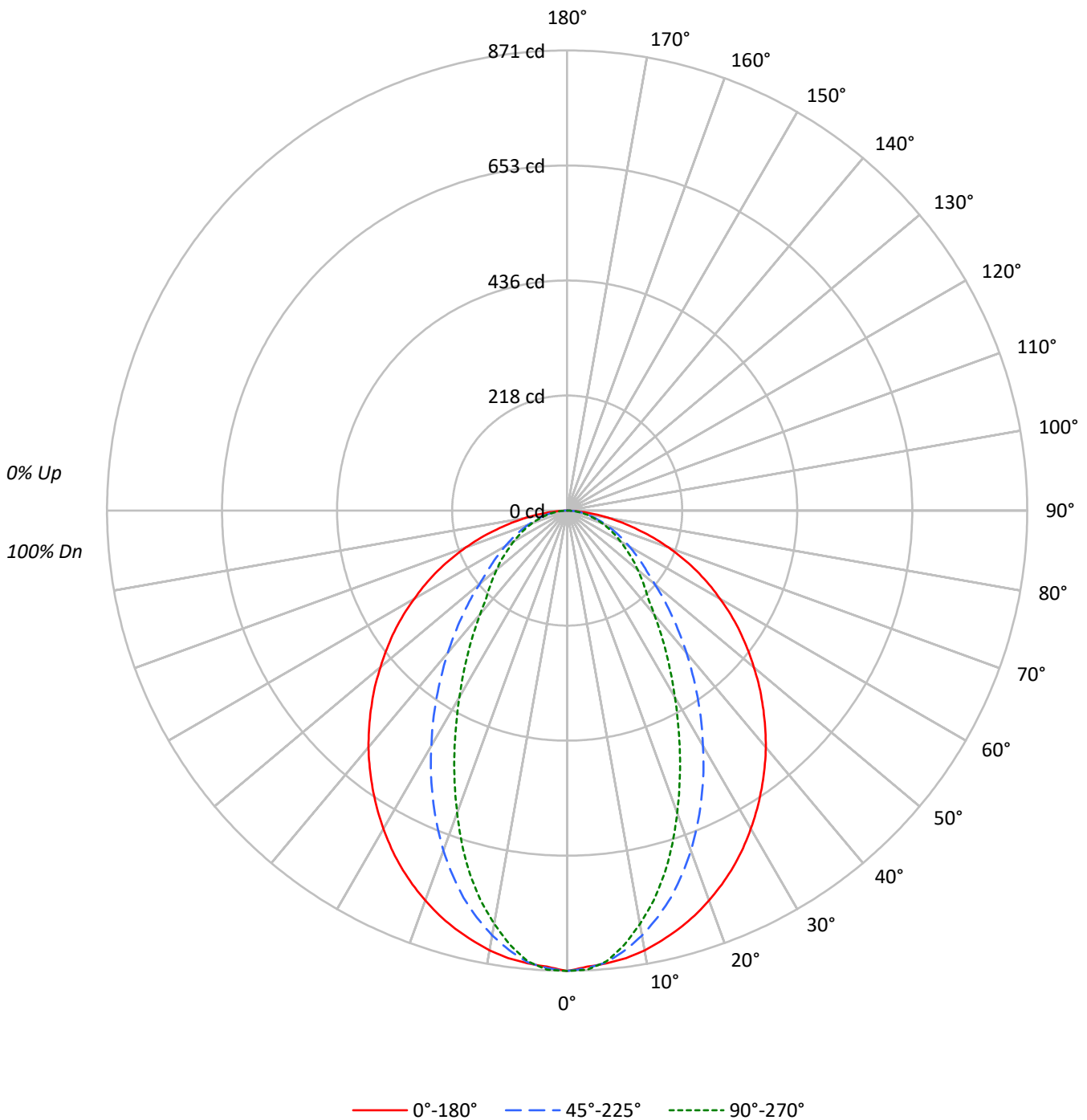
Lumens per Lamp: N/A
Luminaire Lumens: 1528.2 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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	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°	10506	10506	10506
5°	10412	10388	10365
10°	10348	9997	9725
15°	10225	9469	8883
20°	10076	8789	7810
25°	9901	8002	6719
30°	9681	7158	5680
35°	9448	6330	4797
40°	9210	5529	4031
45°	8934	4767	3557
50°	8654	4059	3264
55°	8397	3617	3014
60°	8046	3270	2814
65°	7717	2993	2639
70°	7191	2757	2482
75°	6438	2548	2338
80°	5520	2354	2173
85°	3873	2158	2075

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8934 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.8	5.3
10°-20°	213.7	14.0
20°-30°	281.5	18.4
30°-40°	285.7	18.7
40°-50°	248.4	16.3
50°-60°	194.6	12.7
60°-70°	132.2	8.7
70°-80°	71.6	4.7
80°-90°	19.7	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°	576.0	37.7
0°-40°	861.7	56.4
0°-60°	1304.7	85.4
0°-90°	1528.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1528.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	871	871	871	871	871	
5°	860	871	858	850	856	82
15°	819	808	759	722	712	231
25°	744	699	602	527	505	343
35°	642	566	430	348	326	402
45°	524	420	280	216	209	404
55°	400	278	172	147	143	357
65°	270	150	105	94	92	267
75°	138	69	55	51	50	148
85°	28	17	16	14	15	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	871.4	871.4	871.4	871.4	871.4
2.5°	864.2	875.3	866.8	867.4	870.0
5°	860.3	870.7	858.3	850.5	856.4
7.5°	854.4	862.2	839.4	827.0	829.0
10°	845.3	847.9	816.6	797.1	794.4
12.5°	832.9	828.3	789.2	760.6	756.0
15°	819.2	807.5	758.6	721.5	711.7
17.5°	803.6	784.0	722.8	677.1	662.1
20°	785.3	758.0	685.0	627.0	608.7
22.5°	765.8	730.6	643.9	575.5	556.6
25°	744.3	699.3	601.5	526.6	505.1
27.5°	720.8	668.0	558.5	478.4	454.2
30°	695.4	635.4	514.2	431.4	408.0
32.5°	669.3	600.9	471.8	387.8	365.0
35°	641.9	565.7	430.1	348.0	325.9
37.5°	613.9	529.8	389.7	310.2	289.4
40°	585.2	493.4	351.3	275.0	256.1
42.5°	554.6	456.9	314.1	241.8	227.5
45°	524.0	420.4	279.6	215.7	208.6
47.5°	493.4	383.2	247.0	197.5	191.0
50°	461.4	347.4	216.4	180.5	174.0
52.5°	430.1	312.2	191.0	164.2	159.7
55°	399.5	277.6	172.1	146.6	143.4
57.5°	367.6	243.7	153.2	133.0	129.0
60°	333.7	211.2	135.6	118.6	116.7
62.5°	303.1	180.5	119.9	106.2	104.3
65°	270.5	149.9	104.9	93.8	92.5
67.5°	237.2	124.5	91.2	82.1	81.5
70°	204.0	104.9	78.2	71.0	70.4
72.5°	171.4	86.7	65.8	61.3	60.0
75°	138.2	69.1	54.7	50.8	50.2
77.5°	108.2	53.4	43.7	41.1	40.4
80°	79.5	39.8	33.9	31.9	31.3
82.5°	52.1	27.4	24.1	22.8	22.8
85°	28.0	16.9	15.6	14.3	15.0
87.5°	9.8	7.2	7.2	6.5	7.2
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	18.73	20.22	19.09	20.53	20.85	13.88	15.37	14.25	15.69	16.00
	3H	20.62	21.95	20.99	22.28	22.64	15.51	16.85	15.88	17.17	17.54
	4H	21.37	22.63	21.77	22.98	23.36	16.14	17.40	16.54	17.75	18.13
	6H	21.94	23.10	22.35	23.46	23.86	16.63	17.79	17.05	18.16	18.55
	8H	22.11	23.21	22.54	23.60	24.01	16.80	17.91	17.23	18.30	18.70
	12H	22.21	23.26	22.64	23.65	24.07	16.93	17.99	17.36	18.37	18.80
4H	2H	18.77	20.03	19.17	20.38	20.76	14.61	15.86	15.01	16.21	16.59
	3H	20.79	21.84	21.20	22.24	22.64	16.43	17.47	16.84	17.87	18.27
	4H	21.61	22.55	22.04	22.97	23.40	17.17	18.11	17.61	18.53	18.97
	6H	22.29	23.11	22.75	23.55	24.01	17.78	18.60	18.24	19.04	19.50
	8H	22.52	23.29	22.99	23.73	24.20	18.00	18.76	18.46	19.21	19.67
	12H	22.67	23.36	23.16	23.84	24.31	18.17	18.85	18.65	19.33	19.80
8H	4H	21.63	22.40	22.10	22.84	23.31	17.56	18.32	18.02	18.77	19.23
	6H	22.36	22.99	22.86	23.49	23.96	18.29	18.92	18.78	19.41	19.89
	8H	22.63	23.20	23.15	23.71	24.20	18.57	19.14	19.09	19.65	20.14
	12H	22.84	23.34	23.35	23.83	24.40	18.82	19.32	19.33	19.81	20.38
12H	4H	21.62	22.30	22.10	22.78	23.25	17.61	18.29	18.09	18.77	19.24
	6H	22.35	22.91	22.86	23.42	23.91	18.37	18.93	18.88	19.44	19.93
	8H	22.65	23.15	23.16	23.65	24.21	18.72	19.21	19.23	19.71	20.27