

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: P1055740

Luminaire Tested: S123R3DR-H340D835-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055740
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H340D835-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

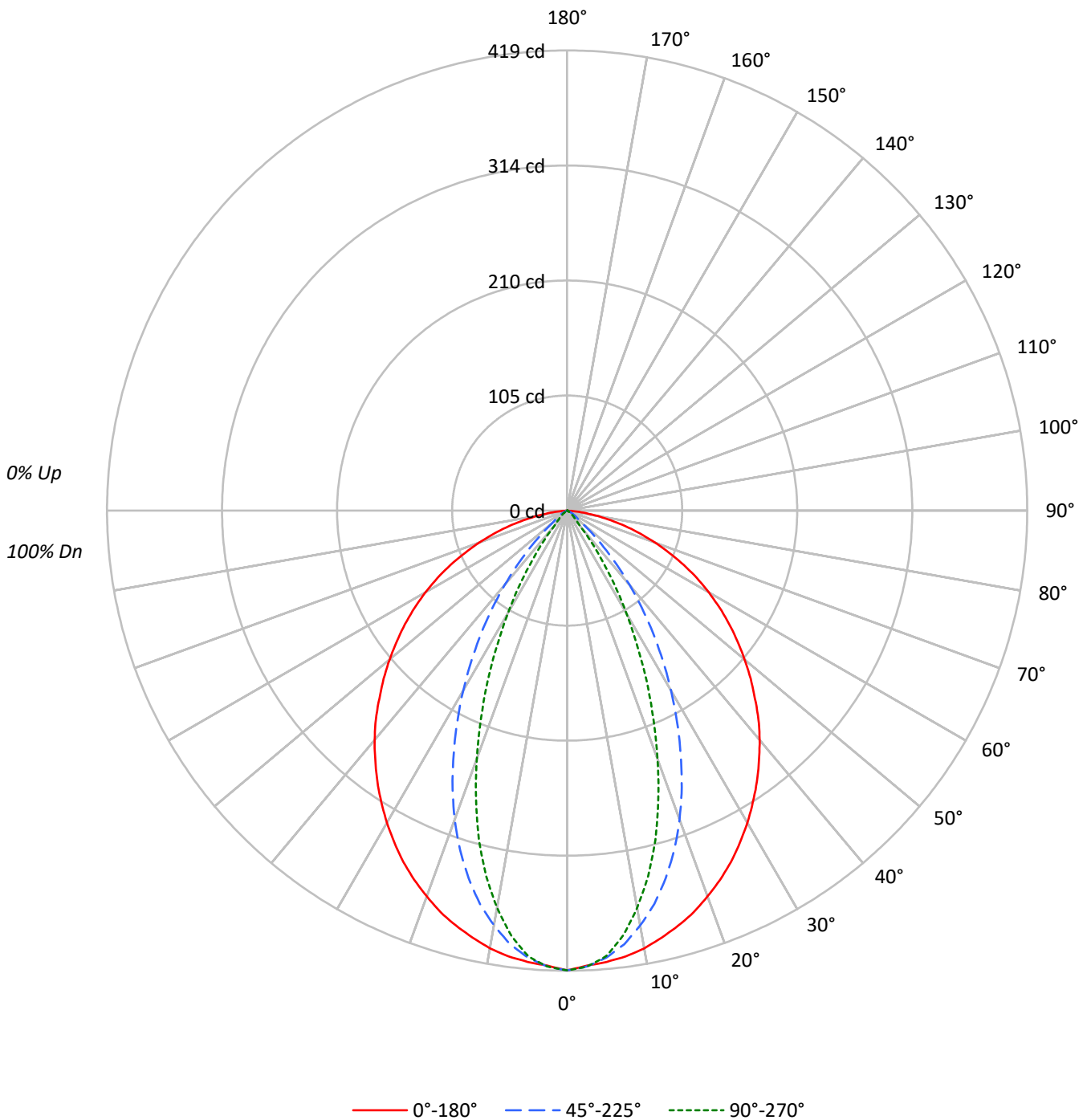
Lumens per Lamp: N/A
Luminaire Lumens: 489.9 lumens
Efficiency: N/A
Efficacy: 41.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	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	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90				
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81				
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73				
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65				
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59				
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56	54				
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50				
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46				
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43				
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5047	5047	5047
5°	4992	4945	4929
10°	4954	4694	4497
15°	4883	4325	3874
20°	4796	3839	3086
25°	4696	3251	2276
30°	4569	2635	1492
35°	4435	2006	818
40°	4292	1387	280
45°	4123	806	164
50°	3958	317	98
55°	3788	202	46
60°	3590	125	22
65°	3343	63	11
70°	3000	32	14
75°	2548	19	19
80°	1902	28	0
85°	719	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4123 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.4	7.8
10°-20°	97.4	19.9
20°-30°	116.2	23.7
30°-40°	98.5	20.1
40°-50°	67.0	13.7
50°-60°	41.5	8.5
60°-70°	21.0	4.3
70°-80°	8.6	1.7
80°-90°	1.3	0.3
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°	251.9	51.4
0°-40°	350.5	71.5
0°-60°	459.0	93.7
0°-90°	489.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	489.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	419	419	419	419	419	
5°	412	416	409	406	407	39
15°	391	381	346	319	310	110
25°	353	320	244	189	171	162
35°	301	242	136	73	56	188
45°	242	158	47	12	10	187
55°	180	80	10	4	2	161
65°	117	20	2	0	0	116
75°	55	4	0	0	0	58
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°	418.6	418.6	418.6	418.6	418.6
2.5°	414.7	420.3	415.5	415.1	415.5
5°	412.5	416.4	408.6	405.5	407.3
7.5°	409.4	411.2	398.2	390.3	390.3
10°	404.7	403.4	383.4	370.4	367.3
12.5°	398.2	392.9	366.9	346.5	340.8
15°	391.2	381.2	346.5	319.1	310.4
17.5°	383.4	368.2	324.3	288.7	276.1
20°	373.8	353.4	299.2	255.7	240.5
22.5°	363.9	337.4	272.7	221.9	204.9
25°	353.0	320.0	244.4	188.9	171.1
27.5°	340.8	301.8	216.7	157.2	137.6
30°	328.2	282.7	189.3	126.8	107.2
32.5°	314.8	262.7	162.0	99.0	80.8
35°	301.3	241.8	136.3	73.4	55.6
37.5°	287.0	221.0	111.6	50.8	35.2
40°	272.7	200.6	88.1	32.1	17.8
42.5°	257.9	179.3	66.9	16.1	12.2
45°	241.8	158.5	47.3	11.7	9.6
47.5°	226.6	138.5	31.3	9.6	7.4
50°	211.0	118.5	16.9	6.9	5.2
52.5°	195.4	99.4	12.2	5.2	3.5
55°	180.2	79.9	9.6	3.5	2.2
57.5°	164.6	63.0	7.4	2.2	1.3
60°	148.9	46.5	5.2	1.3	0.9
62.5°	133.3	32.1	3.5	0.9	0.4
65°	117.2	19.5	2.2	0.4	0.4
67.5°	100.7	13.5	1.3	0.4	0.4
70°	85.1	9.6	0.9	0.4	0.4
72.5°	69.5	6.1	0.4	0.4	0.0
75°	54.7	3.5	0.4	0.4	0.4
77.5°	40.4	1.3	0.4	0.4	0.0
80°	27.4	0.4	0.4	0.4	0.0
82.5°	15.2	0.0	0.4	0.4	0.0
85°	5.2	0.0	0.0	0.4	0.0
87.5°	0.0	0.0	0.0	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	14.68	15.96	15.04	16.27	16.58	0.00	0.00	0.00	0.00	0.00
	3H	16.62	17.75	17.00	18.08	18.45	0.00	0.00	0.00	0.00	0.00
	4H	17.45	18.50	17.85	18.85	19.24	0.00	0.00	0.00	0.00	0.00
	6H	18.00	18.97	18.42	19.34	19.74	0.00	0.00	0.00	0.00	0.00
	8H	18.13	19.04	18.56	19.43	19.84	0.00	0.00	0.00	0.00	0.00
	12H	18.15	19.03	18.58	19.41	19.84	0.00	0.00	0.00	0.00	0.00
4H	2H	14.44	15.49	14.84	15.85	16.23	0.00	0.00	0.00	0.00	0.00
	3H	16.39	17.25	16.80	17.66	18.06	0.00	0.00	0.00	0.00	0.00
	4H	17.20	17.97	17.64	18.39	18.84	0.00	0.00	0.00	0.00	0.00
	6H	17.81	18.47	18.27	18.92	19.38	0.00	0.00	0.00	0.00	0.00
	8H	17.96	18.58	18.43	19.02	19.50	0.00	0.00	0.00	0.00	0.00
	12H	18.00	18.55	18.49	19.03	19.51	0.00	0.00	0.00	0.00	0.00
8H	4H	17.06	17.68	17.53	18.13	18.60	0.00	0.00	0.00	0.00	0.00
	6H	17.64	18.15	18.15	18.64	19.13	0.00	0.00	0.00	0.00	0.00
	8H	17.79	18.24	18.32	18.76	19.25	0.00	0.00	0.00	0.00	0.00
	12H	17.85	18.25	18.37	18.74	19.31	0.00	0.00	0.00	0.00	0.00
12H	4H	17.01	17.56	17.50	18.04	18.52	0.00	0.00	0.00	0.00	0.00
	6H	17.58	18.03	18.10	18.55	19.04	0.00	0.00	0.00	0.00	0.00
	8H	17.75	18.14	18.26	18.64	19.21	0.00	0.00	0.00	0.00	0.00