

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: P1055605

Luminaire Tested: S123R3DR-S340D835-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055605
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-S340D835-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

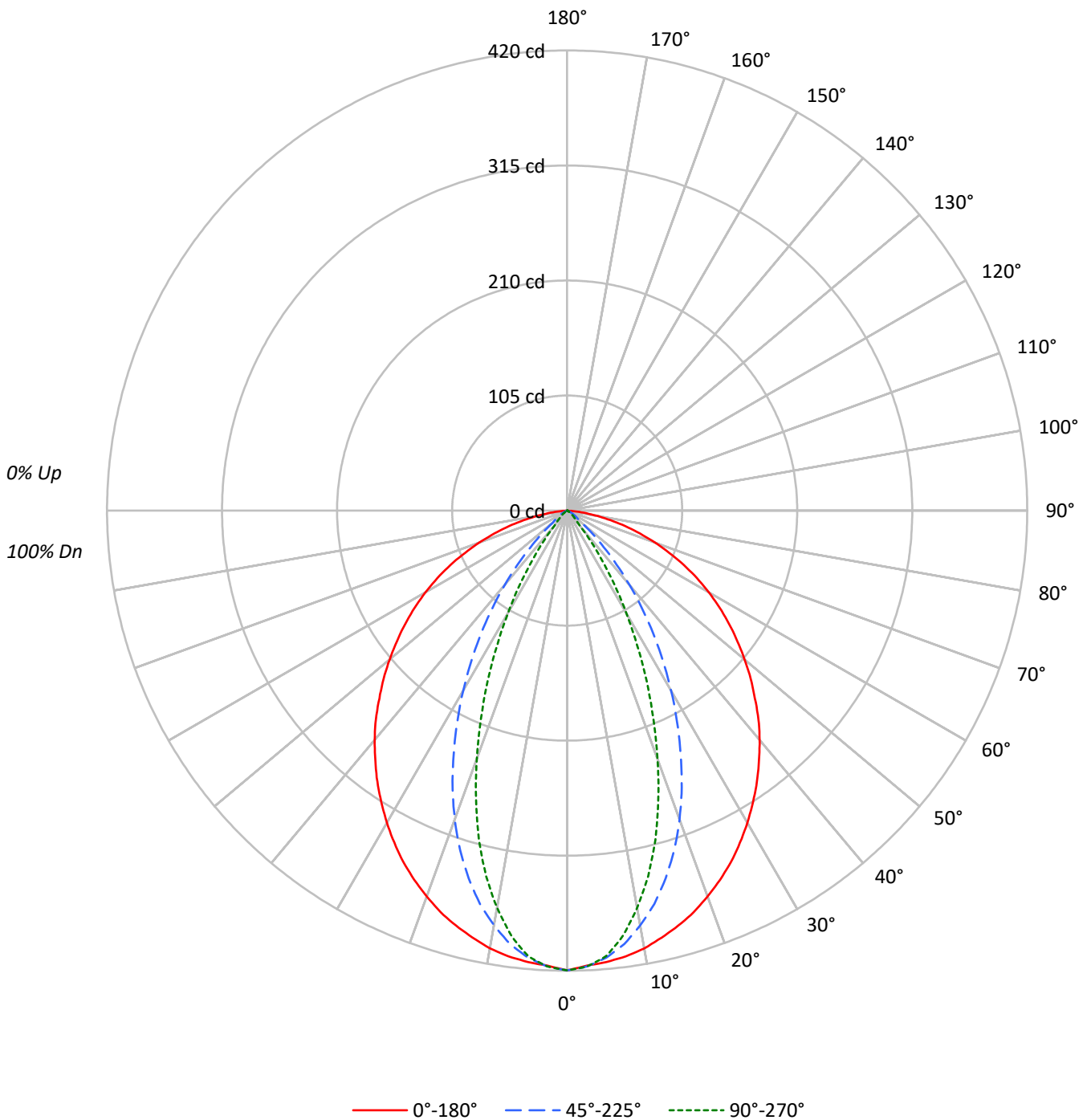
Lumens per Lamp: N/A
Luminaire Lumens: 491.1 lumens
Efficiency: N/A
Efficacy: 39.0 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90					90			
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81					81			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73					73			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65					65			
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59					59			
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56	54					54			
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46					46			
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43					43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40					40			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5059	5059	5059
5°	5004	4957	4941
10°	4967	4705	4508
15°	4895	4335	3884
20°	4809	3848	3093
25°	4708	3261	2281
30°	4582	2642	1497
35°	4446	2012	820
40°	4301	1391	280
45°	4133	808	164
50°	3967	319	98
55°	3796	202	46
60°	3600	125	22
65°	3352	63	11
70°	3007	32	14
75°	2553	19	19
80°	1902	28	0
85°	719	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4133 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.5	7.8
10°-20°	97.6	19.9
20°-30°	116.5	23.7
30°-40°	98.8	20.1
40°-50°	67.1	13.7
50°-60°	41.6	8.5
60°-70°	21.1	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°	252.6	51.4
0°-40°	351.3	71.5
0°-60°	460.1	93.7
0°-90°	491.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	491.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	420	420	420	420	420	
5°	414	417	410	406	408	39
15°	392	382	347	320	311	111
25°	354	321	245	189	172	163
35°	302	242	137	74	56	189
45°	242	159	47	12	10	187
55°	181	80	10	4	2	161
65°	118	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°	419.6	419.6	419.6	419.6	419.6
2.5°	415.7	421.3	416.5	416.1	416.5
5°	413.5	417.4	409.6	406.5	408.3
7.5°	410.4	412.2	399.1	391.3	391.3
10°	405.7	404.4	384.3	371.3	368.2
12.5°	399.1	393.9	367.8	347.3	341.7
15°	392.2	382.2	347.3	319.9	311.2
17.5°	384.3	369.1	325.1	289.4	276.8
20°	374.8	354.3	299.9	256.4	241.1
22.5°	364.7	338.2	273.3	222.4	205.4
25°	353.9	320.8	245.1	189.3	171.5
27.5°	341.7	302.5	217.2	157.6	138.0
30°	329.1	283.4	189.8	127.1	107.5
32.5°	315.6	263.3	162.4	99.2	81.0
35°	302.1	242.4	136.7	73.6	55.7
37.5°	287.7	221.5	111.9	50.9	35.3
40°	273.3	201.1	88.4	32.2	17.8
42.5°	258.5	179.8	67.0	16.1	12.2
45°	242.4	158.9	47.4	11.8	9.6
47.5°	227.2	138.8	31.3	9.6	7.4
50°	211.5	118.8	17.0	7.0	5.2
52.5°	195.9	99.7	12.2	5.2	3.5
55°	180.6	80.1	9.6	3.5	2.2
57.5°	165.0	63.1	7.4	2.2	1.3
60°	149.3	46.6	5.2	1.3	0.9
62.5°	133.6	32.2	3.5	0.9	0.4
65°	117.5	19.6	2.2	0.4	0.4
67.5°	101.0	13.5	1.3	0.4	0.4
70°	85.3	9.6	0.9	0.4	0.4
72.5°	69.6	6.1	0.4	0.4	0.0
75°	54.8	3.5	0.4	0.4	0.4
77.5°	40.5	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	15.05	16.27	16.59	0.00	0.00	0.00	0.00	0.00
	3H	16.63	17.76	17.01	18.09	18.46	0.00	0.00	0.00	0.00	0.00
	4H	17.45	18.51	17.86	18.86	19.24	0.00	0.00	0.00	0.00	0.00
	6H	18.01	18.98	18.42	19.35	19.74	0.00	0.00	0.00	0.00	0.00
	8H	18.13	19.05	18.56	19.44	19.84	0.00	0.00	0.00	0.00	0.00
	12H	18.16	19.03	18.59	19.41	19.84	0.00	0.00	0.00	0.00	0.00
4H	2H	14.44	15.50	14.85	15.85	16.23	0.00	0.00	0.00	0.00	0.00
	3H	16.40	17.26	16.81	17.66	18.07	0.00	0.00	0.00	0.00	0.00
	4H	17.21	17.98	17.65	18.40	18.84	0.00	0.00	0.00	0.00	0.00
	6H	17.81	18.47	18.28	18.92	19.39	0.00	0.00	0.00	0.00	0.00
	8H	17.96	18.58	18.43	19.03	19.50	0.00	0.00	0.00	0.00	0.00
	12H	18.01	18.55	18.50	19.04	19.51	0.00	0.00	0.00	0.00	0.00
8H	4H	17.07	17.69	17.54	18.13	18.60	0.00	0.00	0.00	0.00	0.00
	6H	17.65	18.15	18.15	18.65	19.13	0.00	0.00	0.00	0.00	0.00
	8H	17.80	18.25	18.32	18.76	19.26	0.00	0.00	0.00	0.00	0.00
	12H	17.86	18.25	18.37	18.75	19.32	0.00	0.00	0.00	0.00	0.00
12H	4H	17.02	17.56	17.51	18.05	18.52	0.00	0.00	0.00	0.00	0.00
	6H	17.59	18.04	18.11	18.55	19.05	0.00	0.00	0.00	0.00	0.00
	8H	17.75	18.15	18.27	18.64	19.22	0.00	0.00	0.00	0.00	0.00