

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: P1439780

Luminaire Tested: S123DR-H485D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439780
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DR-H485D840-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

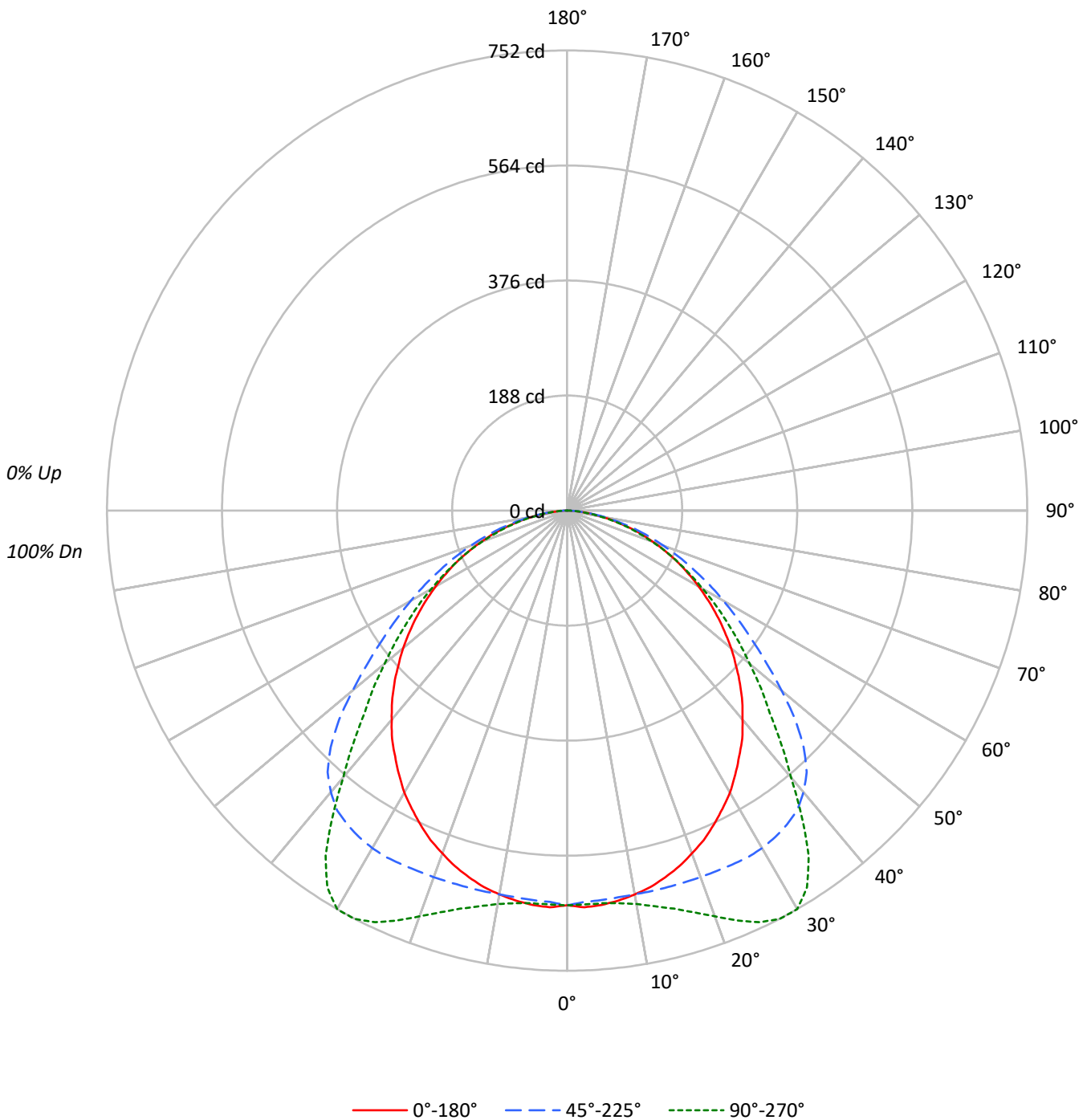
Lumens per Lamp: N/A
Luminaire Lumens: 1950.5 lumens
Efficiency: N/A
Efficacy: 112.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
Input Voltage (V): 120
Input Current (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	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	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85																												
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71																												
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60																												
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52																												
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45																												
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39																												
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34																												
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31																												
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28																												
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7775	7775	7775
5°	7829	7732	7796
10°	7797	7797	7993
15°	7741	7950	8406
20°	7649	8179	9053
25°	7540	8490	9873
30°	7409	8867	10472
35°	7215	9217	10129
40°	7021	9457	8963
45°	6812	9323	7981
50°	6567	8581	7306
55°	6281	7765	6714
60°	5982	7108	6175
65°	5688	6507	5708
70°	5266	5901	5171
75°	4751	5250	4630
80°	3985	4402	3798
85°	3043	3223	2863

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 9323 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.4	3.1
10°-20°	182.5	9.4
20°-30°	299.0	15.3
30°-40°	378.3	19.4
40°-50°	369.6	18.9
50°-60°	303.6	15.6
60°-70°	214.2	11.0
70°-80°	114.1	5.9
80°-90°	27.8	1.4
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°	542.9	27.8
0°-40°	921.2	47.2
0°-60°	1594.4	81.7
0°-90°	1950.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1950.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	645	645	645	645	645	
5°	647	644	639	646	644	61
15°	620	624	637	666	674	175
25°	567	584	638	716	742	261
35°	490	524	626	699	688	307
45°	400	445	547	494	468	308
55°	299	343	369	332	319	267
65°	199	228	228	208	200	197
75°	102	115	113	102	99	108
85°	22	24	23	21	21	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	644.9	644.9	644.9	644.9	644.9
2.5°	648.9	646.9	640.2	646.2	644.2
5°	646.9	644.2	638.9	645.5	644.2
7.5°	642.9	641.5	637.5	647.5	646.9
10°	636.9	636.2	636.9	651.5	652.9
12.5°	630.2	630.9	636.9	657.5	662.2
15°	620.2	623.5	636.9	665.5	673.5
17.5°	609.5	614.9	636.9	676.2	688.2
20°	596.2	605.5	637.5	687.6	705.6
22.5°	582.9	594.2	637.5	702.9	724.9
25°	566.8	583.5	638.2	715.6	742.2
27.5°	549.5	569.5	638.9	725.6	752.2
30°	532.2	556.2	636.9	729.6	752.2
32.5°	511.5	540.8	632.9	722.9	729.6
35°	490.2	524.2	626.2	698.9	688.2
37.5°	470.1	506.2	617.5	654.9	629.5
40°	446.1	486.8	600.9	598.9	569.5
42.5°	423.5	466.1	579.5	542.2	518.2
45°	399.5	444.8	546.8	493.5	468.1
47.5°	374.1	421.5	505.5	447.5	429.5
50°	350.1	397.5	457.5	405.5	389.5
52.5°	324.1	372.1	411.5	368.1	354.1
55°	298.8	343.4	369.4	332.1	319.4
57.5°	273.4	315.4	330.8	298.1	288.1
60°	248.1	286.1	294.8	266.8	256.1
62.5°	223.4	258.7	261.4	236.7	227.4
65°	199.4	228.1	228.1	208.1	200.1
67.5°	174.1	198.7	197.4	178.7	174.1
70°	149.4	170.1	167.4	152.0	146.7
72.5°	126.0	141.4	139.4	127.4	121.4
75°	102.0	114.7	112.7	102.0	99.4
77.5°	79.4	88.0	86.0	78.7	76.7
80°	57.4	64.0	63.4	58.0	54.7
82.5°	38.7	42.0	41.3	38.0	36.0
85°	22.0	24.0	23.3	21.3	20.7
87.5°	8.7	10.0	10.7	10.0	9.3
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	18.76	20.37	19.13	20.68	21.00	18.49	20.10	18.86	20.41	20.72
	3H	20.33	21.78	20.71	22.11	22.47	20.01	21.45	20.38	21.78	22.14
	4H	20.88	22.24	21.28	22.59	22.97	20.54	21.90	20.94	22.25	22.63
	6H	21.25	22.51	21.66	22.87	23.26	20.90	22.16	21.31	22.52	22.91
	8H	21.35	22.55	21.77	22.94	23.34	20.99	22.19	21.42	22.58	22.98
	12H	21.40	22.55	21.83	22.94	23.36	21.04	22.20	21.47	22.58	23.01
4H	2H	19.40	20.76	19.80	21.11	21.49	19.19	20.55	19.59	20.90	21.27
	3H	21.21	22.34	21.62	22.74	23.14	20.91	22.04	21.31	22.44	22.84
	4H	21.90	22.92	22.33	23.34	23.77	21.54	22.57	21.97	22.98	23.42
	6H	22.38	23.27	22.83	23.71	24.17	22.00	22.89	22.46	23.34	23.79
	8H	22.51	23.35	22.97	23.79	24.26	22.13	22.96	22.59	23.41	23.87
	12H	22.60	23.35	23.08	23.82	24.29	22.21	22.96	22.69	23.43	23.90
8H	4H	22.16	23.00	22.62	23.44	23.91	21.85	22.68	22.31	23.13	23.59
	6H	22.75	23.45	23.25	23.94	24.41	22.41	23.10	22.90	23.59	24.07
	8H	22.95	23.57	23.46	24.08	24.56	22.59	23.21	23.10	23.72	24.20
	12H	23.09	23.64	23.60	24.13	24.69	22.72	23.27	23.23	23.76	24.32
12H	4H	22.18	22.93	22.66	23.40	23.87	21.88	22.63	22.36	23.10	23.57
	6H	22.79	23.41	23.30	23.92	24.40	22.45	23.08	22.96	23.58	24.07
	8H	23.03	23.58	23.54	24.07	24.63	22.68	23.23	23.19	23.72	24.29