

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: P1439781

Luminaire Tested: S123DR-H485D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439781
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-H485D850-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

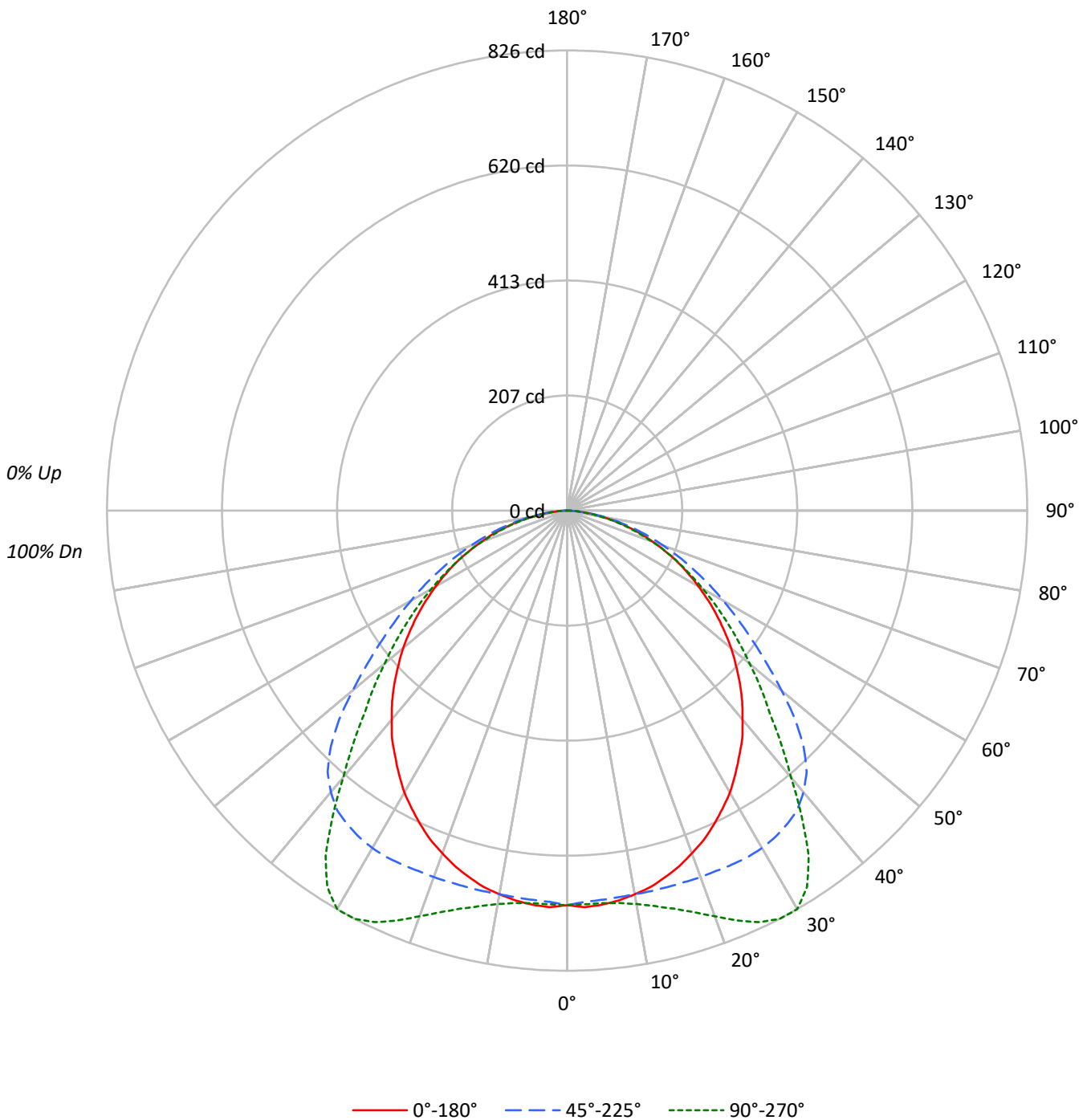
Lumens per Lamp: N/A
Luminaire Lumens: 2141.9 lumens
Efficiency: N/A
Efficacy: 123.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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°	8538	8538	8538
5°	8598	8491	8561
10°	8562	8562	8778
15°	8501	8730	9233
20°	8400	8982	9941
25°	8281	9324	10843
30°	8136	9737	11501
35°	7923	10122	11124
40°	7710	10384	9843
45°	7480	10239	8766
50°	7212	9423	8022
55°	6897	8528	7374
60°	6568	7805	6781
65°	6248	7146	6268
70°	5781	6479	5679
75°	5217	5767	5082
80°	4374	4832	4173
85°	3348	3541	3140

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 10239 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.4	3.1
10°-20°	200.4	9.4
20°-30°	328.4	15.3
30°-40°	415.4	19.4
40°-50°	405.8	18.9
50°-60°	333.4	15.6
60°-70°	235.2	11.0
70°-80°	125.4	5.9
80°-90°	30.5	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°	596.2	27.8
0°-40°	1011.6	47.2
0°-60°	1750.9	81.7
0°-90°	2141.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2141.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	708	708	708	708	708	
5°	710	707	702	709	707	67
15°	681	685	699	731	740	192
25°	622	641	701	786	815	287
35°	538	576	688	768	756	337
45°	439	488	600	542	514	338
55°	328	377	406	365	351	293
65°	219	250	250	228	220	216
75°	112	126	124	112	109	119
85°	24	26	26	23	23	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	708.2	708.2	708.2	708.2	708.2
2.5°	712.6	710.4	703.0	709.6	707.4
5°	710.4	707.4	701.6	708.9	707.4
7.5°	706.0	704.5	700.1	711.1	710.4
10°	699.4	698.7	699.4	715.5	717.0
12.5°	692.1	692.8	699.4	722.1	727.2
15°	681.1	684.7	699.4	730.9	739.7
17.5°	669.4	675.2	699.4	742.6	755.8
20°	654.7	665.0	700.1	755.0	774.8
22.5°	640.1	652.5	700.1	771.9	796.1
25°	622.5	640.8	700.9	785.8	815.1
27.5°	603.4	625.4	701.6	796.8	826.1
30°	584.4	610.8	699.4	801.2	826.1
32.5°	561.7	593.9	695.0	793.9	801.2
35°	538.3	575.6	687.7	767.5	755.8
37.5°	516.3	555.8	678.1	719.2	691.3
40°	489.9	534.6	659.8	657.6	625.4
42.5°	465.0	511.9	636.4	595.4	569.0
45°	438.7	488.5	600.5	541.9	514.1
47.5°	410.8	462.8	555.1	491.4	471.6
50°	384.5	436.5	502.4	445.3	427.7
52.5°	355.9	408.6	451.9	404.3	388.9
55°	328.1	377.2	405.7	364.7	350.8
57.5°	300.3	346.4	363.2	327.4	316.4
60°	272.4	314.2	323.7	292.9	281.2
62.5°	245.3	284.1	287.1	260.0	249.7
65°	219.0	250.5	250.5	228.5	219.7
67.5°	191.1	218.2	216.8	196.3	191.1
70°	164.0	186.7	183.8	167.0	161.1
72.5°	138.4	155.3	153.1	139.9	133.3
75°	112.0	126.0	123.8	112.0	109.1
77.5°	87.1	96.7	94.5	86.4	84.2
80°	63.0	70.3	69.6	63.7	60.1
82.5°	42.5	46.1	45.4	41.7	39.5
85°	24.2	26.4	25.6	23.4	22.7
87.5°	9.5	11.0	11.7	11.0	10.3
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	19.09	20.69	19.45	21.01	21.32	18.82	20.42	19.18	20.74	21.05
	3H	20.66	22.10	21.04	22.43	22.79	20.33	21.78	20.71	22.10	22.47
	4H	21.21	22.57	21.61	22.92	23.29	20.87	22.23	21.27	22.57	22.95
	6H	21.57	22.83	21.99	23.20	23.59	21.22	22.48	21.64	22.85	23.24
	8H	21.67	22.87	22.10	23.26	23.66	21.32	22.52	21.74	22.91	23.31
	12H	21.73	22.88	22.16	23.26	23.69	21.37	22.52	21.80	22.90	23.33
4H	2H	19.73	21.09	20.13	21.44	21.81	19.52	20.88	19.91	21.22	21.60
	3H	21.54	22.67	21.94	23.07	23.47	21.23	22.37	21.64	22.76	23.16
	4H	22.22	23.25	22.65	23.66	24.10	21.87	22.89	22.30	23.31	23.74
	6H	22.70	23.60	23.16	24.04	24.49	22.33	23.22	22.78	23.66	24.12
	8H	22.84	23.67	23.30	24.12	24.58	22.45	23.29	22.91	23.73	24.20
	12H	22.92	23.67	23.40	24.15	24.62	22.53	23.28	23.01	23.76	24.23
8H	4H	22.49	23.32	22.95	23.77	24.23	22.18	23.01	22.64	23.45	23.92
	6H	23.08	23.77	23.57	24.26	24.74	22.74	23.43	23.23	23.92	24.39
	8H	23.27	23.89	23.78	24.40	24.89	22.91	23.54	23.42	24.04	24.53
	12H	23.41	23.96	23.92	24.45	25.02	23.04	23.59	23.55	24.08	24.65
12H	4H	22.50	23.25	22.98	23.73	24.20	22.20	22.95	22.68	23.43	23.90
	6H	23.11	23.73	23.62	24.24	24.73	22.78	23.40	23.29	23.91	24.40
	8H	23.35	23.90	23.86	24.39	24.96	23.01	23.56	23.52	24.05	24.61