

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: P1439790

Luminaire Tested: S123DR-H675D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439790
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-H675D850-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

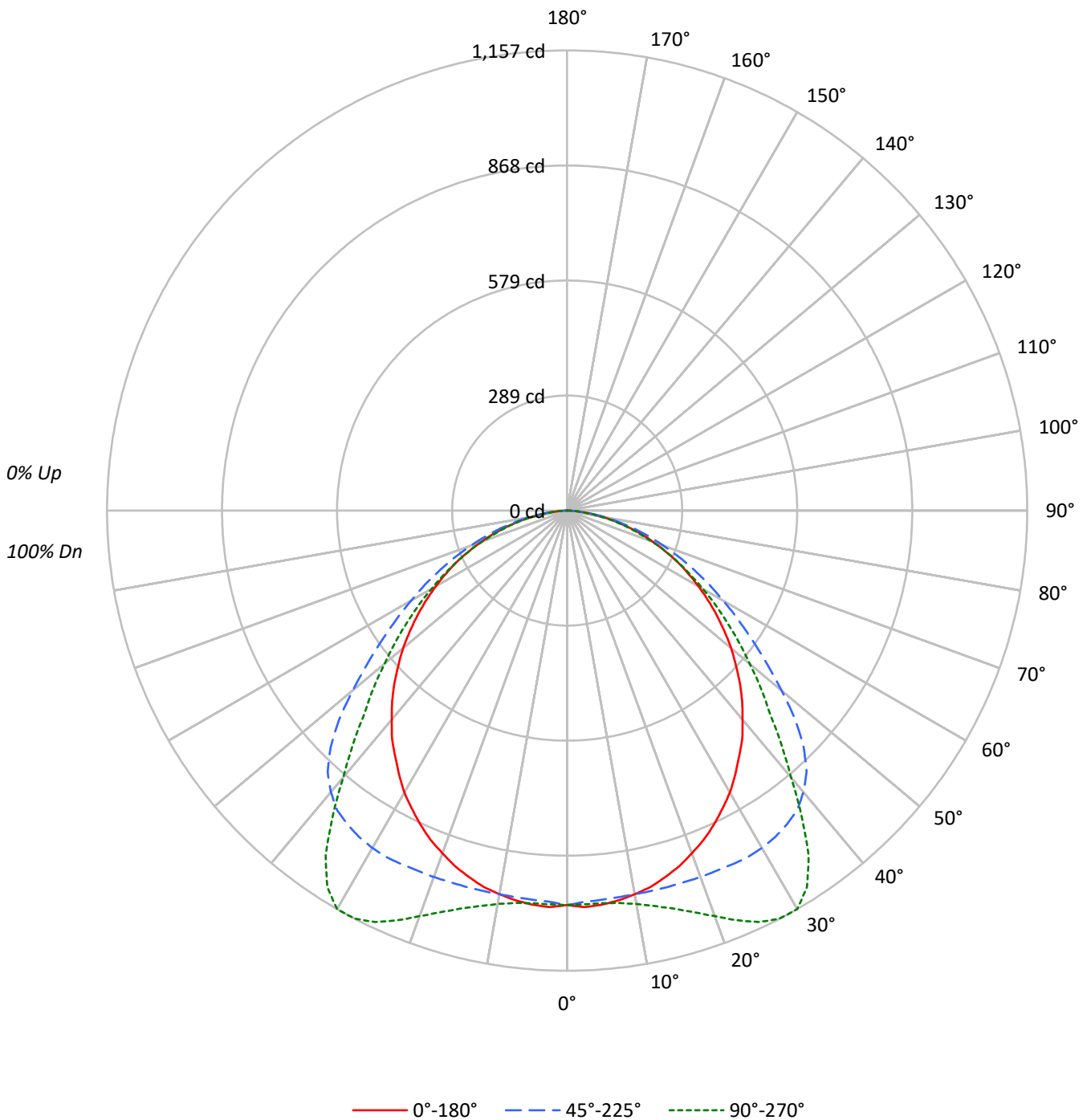
Lumens per Lamp: N/A
Luminaire Lumens: 2999.8 lumens
Efficiency: N/A
Efficacy: 126.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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	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	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71					71			
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60					60			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52					52			
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11958	11958	11958
5°	12041	11892	11991
10°	11991	11991	12293
15°	11905	12226	12930
20°	11764	12580	13922
25°	11597	13057	15185
30°	11395	13636	16106
35°	11095	14175	15579
40°	10800	14544	13785
45°	10476	14339	12276
50°	10100	13197	11235
55°	9659	11943	10327
60°	9199	10930	9496
65°	8750	10008	8778
70°	8097	9073	7953
75°	7309	8073	7118
80°	6124	6762	5839
85°	4676	4966	4399

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 14339 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.4	3.1
10°-20°	280.6	9.4
20°-30°	459.9	15.3
30°-40°	581.8	19.4
40°-50°	568.4	18.9
50°-60°	466.9	15.6
60°-70°	329.4	11.0
70°-80°	175.5	5.9
80°-90°	42.8	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°	835.0	27.8
0°-40°	1416.7	47.2
0°-60°	2452.1	81.7
0°-90°	2999.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2999.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	992	992	992	992	992	
5°	995	991	983	993	991	94
15°	954	959	980	1024	1036	269
25°	872	897	982	1100	1142	401
35°	754	806	963	1075	1058	472
45°	614	684	841	759	720	473
55°	460	528	568	511	491	411
65°	307	351	351	320	308	303
75°	157	176	173	157	153	167
85°	34	37	36	33	32	41
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	991.8	991.8	991.8	991.8	991.8
2.5°	997.9	994.9	984.6	993.8	990.8
5°	994.9	990.8	982.6	992.8	990.8
7.5°	988.7	986.7	980.5	995.9	994.9
10°	979.5	978.5	979.5	1002.0	1004.1
12.5°	969.2	970.3	979.5	1011.3	1018.5
15°	953.8	959.0	979.5	1023.6	1035.9
17.5°	937.4	945.6	979.5	1040.0	1058.5
20°	916.9	931.3	980.5	1057.4	1085.1
22.5°	896.4	913.8	980.5	1081.0	1114.9
25°	871.8	897.4	981.5	1100.5	1141.5
27.5°	845.1	875.9	982.6	1115.9	1156.9
30°	818.5	855.4	979.5	1122.0	1156.9
32.5°	786.7	831.8	973.3	1111.8	1122.0
35°	753.8	806.2	963.1	1074.9	1058.5
37.5°	723.1	778.5	949.7	1007.2	968.2
40°	686.2	748.7	924.1	921.0	875.9
42.5°	651.3	716.9	891.3	833.8	796.9
45°	614.4	684.1	841.0	759.0	720.0
47.5°	575.4	648.2	777.4	688.2	660.5
50°	538.5	611.3	703.6	623.6	599.0
52.5°	498.5	572.3	632.8	566.2	544.6
55°	459.5	528.2	568.2	510.8	491.3
57.5°	420.5	485.1	508.7	458.5	443.1
60°	381.5	440.0	453.3	410.3	393.8
62.5°	343.6	397.9	402.1	364.1	349.7
65°	306.7	350.8	350.8	320.0	307.7
67.5°	267.7	305.6	303.6	274.9	267.7
70°	229.7	261.5	257.4	233.8	225.6
72.5°	193.8	217.4	214.4	195.9	186.7
75°	156.9	176.4	173.3	156.9	152.8
77.5°	122.1	135.4	132.3	121.0	117.9
80°	88.2	98.5	97.4	89.2	84.1
82.5°	59.5	64.6	63.6	58.5	55.4
85°	33.8	36.9	35.9	32.8	31.8
87.5°	13.3	15.4	16.4	15.4	14.4
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	20.26	21.86	20.62	22.18	22.49	19.99	21.59	20.35	21.91	22.22
	3H	21.83	23.28	22.21	23.60	23.96	21.50	22.95	21.88	23.27	23.64
	4H	22.38	23.74	22.78	24.09	24.46	22.04	23.40	22.44	23.74	24.12
	6H	22.74	24.00	23.16	24.37	24.76	22.39	23.65	22.81	24.02	24.41
	8H	22.84	24.05	23.27	24.43	24.83	22.49	23.69	22.91	24.08	24.48
	12H	22.90	24.05	23.33	24.43	24.86	22.54	23.69	22.97	24.07	24.50
4H	2H	20.90	22.26	21.30	22.61	22.98	20.69	22.05	21.08	22.39	22.77
	3H	22.71	23.84	23.11	24.24	24.64	22.40	23.54	22.81	23.93	24.33
	4H	23.39	24.42	23.82	24.83	25.27	23.04	24.06	23.47	24.48	24.91
	6H	23.87	24.77	24.33	25.21	25.66	23.50	24.39	23.95	24.83	25.29
	8H	24.01	24.84	24.47	25.29	25.75	23.62	24.46	24.08	24.90	25.37
	12H	24.09	24.84	24.57	25.32	25.79	23.70	24.45	24.18	24.93	25.40
8H	4H	23.66	24.49	24.12	24.94	25.40	23.35	24.18	23.81	24.62	25.09
	6H	24.25	24.94	24.74	25.43	25.91	23.91	24.60	24.40	25.09	25.56
	8H	24.44	25.06	24.95	25.57	26.06	24.08	24.71	24.60	25.21	25.70
	12H	24.58	25.13	25.09	25.62	26.19	24.21	24.76	24.72	25.25	25.82
12H	4H	23.67	24.42	24.15	24.90	25.37	23.37	24.12	23.85	24.60	25.07
	6H	24.28	24.90	24.79	25.41	25.90	23.95	24.57	24.46	25.08	25.57
	8H	24.52	25.07	25.03	25.57	26.13	24.18	24.73	24.69	25.22	25.78