

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: P1439802

Luminaire Tested: S123DR-H865D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439802
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-H865D935-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

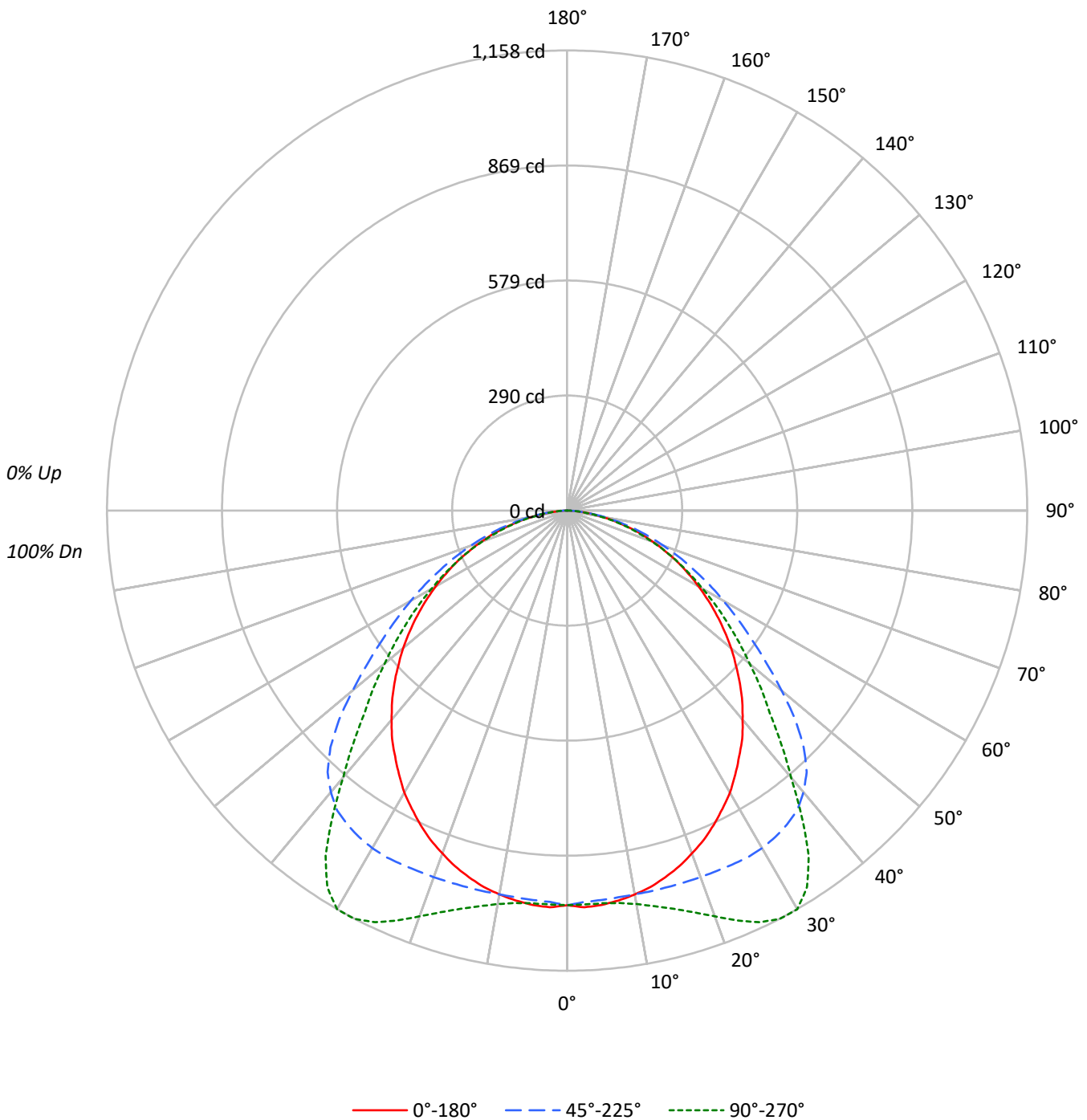
Lumens per Lamp: N/A
Luminaire Lumens: 3003.5 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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	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°	11972	11972	11972
5°	12055	11906	12006
10°	12006	12006	12307
15°	11920	12241	12946
20°	11779	12595	13940
25°	11612	13074	15204
30°	11409	13653	16127
35°	11109	14193	15598
40°	10812	14561	13803
45°	10488	14358	12292
50°	10112	13214	11248
55°	9671	11958	10340
60°	9211	10945	9508
65°	8758	10019	8789
70°	8108	9088	7963
75°	7318	8082	7127
80°	6131	6776	5846
85°	4689	4966	4399

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 14358 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	3.1
10°-20°	281.0	9.4
20°-30°	460.5	15.3
30°-40°	582.5	19.4
40°-50°	569.1	18.9
50°-60°	467.5	15.6
60°-70°	329.8	11.0
70°-80°	175.8	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°	836.0	27.8
0°-40°	1418.5	47.2
0°-60°	2455.1	81.7
0°-90°	3003.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3003.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	993	993	993	993	993	
5°	996	992	984	994	992	95
15°	955	960	981	1025	1037	269
25°	873	898	983	1102	1143	402
35°	755	807	964	1076	1060	473
45°	615	685	842	760	721	474
55°	460	529	569	511	492	412
65°	307	351	351	320	308	303
75°	157	177	174	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°	993.0	993.0	993.0	993.0	993.0
2.5°	999.2	996.1	985.8	995.1	992.0
5°	996.1	992.0	983.8	994.0	992.0
7.5°	989.9	987.9	981.7	997.1	996.1
10°	980.7	979.7	980.7	1003.3	1005.3
12.5°	970.4	971.5	980.7	1012.5	1019.7
15°	955.0	960.2	980.7	1024.9	1037.2
17.5°	938.6	946.8	980.7	1041.3	1059.8
20°	918.1	932.4	981.7	1058.7	1086.5
22.5°	897.5	915.0	981.7	1082.4	1116.2
25°	872.9	898.5	982.8	1101.9	1142.9
27.5°	846.2	877.0	983.8	1117.3	1158.4
30°	819.5	856.4	980.7	1123.4	1158.4
32.5°	787.6	832.8	974.5	1113.2	1123.4
35°	754.8	807.2	964.3	1076.2	1059.8
37.5°	724.0	779.4	950.9	1008.4	969.4
40°	687.0	749.6	925.2	922.2	877.0
42.5°	652.1	717.8	892.4	834.9	797.9
45°	615.1	684.9	842.1	759.9	720.9
47.5°	576.1	649.0	778.4	689.1	661.3
50°	539.1	612.0	704.5	624.4	599.7
52.5°	499.1	573.0	633.6	566.9	545.3
55°	460.1	528.9	568.9	511.4	491.9
57.5°	421.0	485.7	509.3	459.0	443.6
60°	382.0	440.5	453.9	410.8	394.3
62.5°	344.0	398.4	402.5	364.6	350.2
65°	307.0	351.2	351.2	320.4	308.1
67.5°	268.0	306.0	304.0	275.2	268.0
70°	230.0	261.9	257.8	234.1	225.9
72.5°	194.1	217.7	214.6	196.1	186.9
75°	157.1	176.6	173.5	157.1	153.0
77.5°	122.2	135.6	132.5	121.2	118.1
80°	88.3	98.6	97.6	89.3	84.2
82.5°	59.6	64.7	63.7	58.5	55.5
85°	33.9	37.0	35.9	32.9	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	21.87	20.63	22.18	22.50	19.99	21.60	20.36	21.91	22.22
	3H	21.83	23.28	22.21	23.61	23.97	21.51	22.95	21.88	23.28	23.64
	4H	22.38	23.74	22.78	24.09	24.47	22.04	23.40	22.44	23.75	24.12
	6H	22.75	24.01	23.16	24.37	24.76	22.40	23.66	22.81	24.02	24.41
	8H	22.85	24.05	23.27	24.44	24.84	22.49	23.69	22.92	24.08	24.48
	12H	22.90	24.05	23.33	24.44	24.86	22.54	23.69	22.97	24.08	24.50
4H	2H	20.90	22.26	21.30	22.61	22.99	20.69	22.05	21.09	22.40	22.77
	3H	22.71	23.84	23.12	24.24	24.64	22.40	23.54	22.81	23.94	24.34
	4H	23.40	24.42	23.83	24.84	25.27	23.04	24.07	23.47	24.48	24.92
	6H	23.88	24.77	24.33	25.21	25.67	23.50	24.39	23.96	24.84	25.29
	8H	24.01	24.85	24.47	25.29	25.76	23.63	24.46	24.09	24.91	25.37
	12H	24.10	24.85	24.58	25.32	25.79	23.71	24.46	24.19	24.93	25.40
8H	4H	23.66	24.50	24.12	24.94	25.41	23.35	24.18	23.81	24.63	25.09
	6H	24.25	24.95	24.75	25.43	25.91	23.91	24.60	24.40	25.09	25.57
	8H	24.45	25.07	24.96	25.58	26.06	24.09	24.71	24.60	25.22	25.70
	12H	24.59	25.14	25.10	25.63	26.19	24.22	24.77	24.73	25.26	25.82
12H	4H	23.68	24.43	24.16	24.90	25.37	23.38	24.12	23.86	24.60	25.07
	6H	24.29	24.91	24.80	25.42	25.90	23.95	24.58	24.46	25.08	25.57
	8H	24.53	25.08	25.04	25.57	26.13	24.18	24.73	24.69	25.22	25.79