

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: P1439789

Luminaire Tested: S123DR-H675D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439789
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-H675D840-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

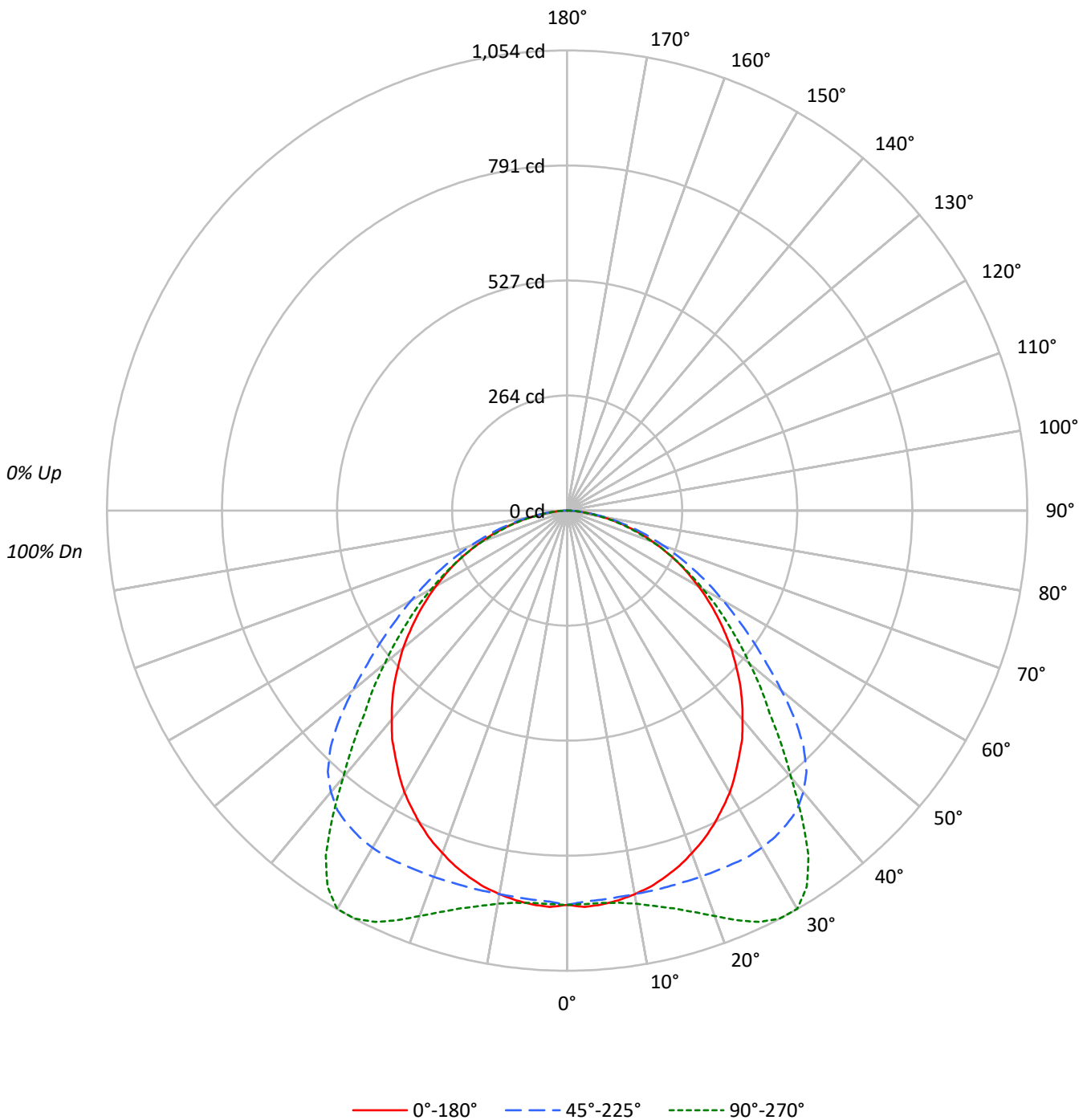
Lumens per Lamp: N/A
Luminaire Lumens: 2731.6 lumens
Efficiency: N/A
Efficacy: 114.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	10888	10888	10888
5°	10964	10828	10919
10°	10919	10919	11193
15°	10842	11132	11774
20°	10713	11456	12677
25°	10561	11890	13828
30°	10376	12417	14666
35°	10104	12908	14185
40°	9833	13244	12553
45°	9538	13057	11178
50°	9196	12017	10230
55°	8795	10876	9404
60°	8377	9954	8647
65°	7968	9112	7994
70°	7374	8263	7244
75°	6657	7351	6484
80°	5575	6158	5318
85°	4261	4523	4012

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 13057 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.0	3.1
10°-20°	255.5	9.4
20°-30°	418.8	15.3
30°-40°	529.8	19.4
40°-50°	517.6	18.9
50°-60°	425.2	15.6
60°-70°	299.9	11.0
70°-80°	159.9	5.9
80°-90°	39.0	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°	760.3	27.8
0°-40°	1290.1	47.2
0°-60°	2232.8	81.7
0°-90°	2731.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2731.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	903	903	903	903	903	
5°	906	902	895	904	902	86
15°	869	873	892	932	943	245
25°	794	817	894	1002	1040	366
35°	686	734	877	979	964	430
45°	559	623	766	691	656	431
55°	418	481	517	465	447	374
65°	279	319	319	291	280	276
75°	143	161	158	143	139	152
85°	31	34	33	30	29	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	903.1	903.1	903.1	903.1	903.1
2.5°	908.7	905.9	896.6	905.0	902.2
5°	905.9	902.2	894.7	904.1	902.2
7.5°	900.3	898.5	892.9	906.9	905.9
10°	891.9	891.0	891.9	912.5	914.3
12.5°	882.6	883.5	891.9	920.9	927.4
15°	868.6	873.2	891.9	932.1	943.3
17.5°	853.6	861.1	891.9	947.0	963.8
20°	835.0	848.0	892.9	962.9	988.1
22.5°	816.3	832.2	892.9	984.4	1015.2
25°	793.9	817.2	893.8	1002.1	1039.5
27.5°	769.6	797.6	894.7	1016.1	1053.5
30°	745.3	778.9	891.9	1021.7	1053.5
32.5°	716.3	757.4	886.3	1012.4	1021.7
35°	686.5	734.1	877.0	978.8	963.8
37.5°	658.4	708.9	864.8	917.1	881.7
40°	624.8	681.8	841.5	838.7	797.6
42.5°	593.1	652.8	811.6	759.3	725.7
45°	559.4	622.9	765.8	691.1	655.6
47.5°	523.9	590.3	707.9	626.7	601.5
50°	490.3	556.6	640.7	567.8	545.4
52.5°	453.9	521.1	576.3	515.5	495.9
55°	418.4	481.0	517.4	465.1	447.4
57.5°	382.9	441.8	463.2	417.5	403.5
60°	347.4	400.7	412.8	373.6	358.6
62.5°	312.9	362.4	366.1	331.6	318.5
65°	279.3	319.4	319.4	291.4	280.2
67.5°	243.8	278.3	276.5	250.3	243.8
70°	209.2	238.2	234.4	212.9	205.5
72.5°	176.5	198.0	195.2	178.4	170.0
75°	142.9	160.6	157.8	142.9	139.2
77.5°	111.1	123.3	120.5	110.2	107.4
80°	80.3	89.7	88.7	81.3	76.6
82.5°	54.2	58.8	57.9	53.2	50.4
85°	30.8	33.6	32.7	29.9	29.0
87.5°	12.1	14.0	14.9	14.0	13.1
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	19.93	21.54	20.30	21.85	22.17	19.66	21.27	20.03	21.58	21.89
	3H	21.50	22.95	21.88	23.28	23.64	21.18	22.62	21.55	22.95	23.31
	4H	22.06	23.42	22.45	23.76	24.14	21.71	23.07	22.11	23.42	23.80
	6H	22.42	23.68	22.83	24.04	24.43	22.07	23.33	22.48	23.69	24.08
	8H	22.52	23.72	22.94	24.11	24.51	22.16	23.36	22.59	23.75	24.15
	12H	22.57	23.72	23.00	24.11	24.53	22.22	23.37	22.64	23.75	24.18
4H	2H	20.57	21.93	20.97	22.28	22.66	20.36	21.72	20.76	22.07	22.44
	3H	22.38	23.52	22.79	23.91	24.31	22.08	23.21	22.49	23.61	24.01
	4H	23.07	24.09	23.50	24.51	24.94	22.71	23.74	23.14	24.15	24.59
	6H	23.55	24.44	24.00	24.88	25.34	23.17	24.07	23.63	24.51	24.96
	8H	23.68	24.52	24.14	24.96	25.43	23.30	24.13	23.76	24.58	25.04
	12H	23.77	24.52	24.25	24.99	25.46	23.38	24.13	23.86	24.60	25.07
8H	4H	23.33	24.17	23.79	24.61	25.08	23.02	23.85	23.48	24.30	24.76
	6H	23.92	24.62	24.42	25.11	25.58	23.58	24.27	24.07	24.76	25.24
	8H	24.12	24.74	24.63	25.25	25.73	23.76	24.38	24.27	24.89	25.37
	12H	24.26	24.81	24.77	25.30	25.86	23.89	24.44	24.40	24.93	25.49
12H	4H	23.35	24.10	23.83	24.57	25.04	23.05	23.80	23.53	24.27	24.74
	6H	23.96	24.58	24.47	25.09	25.57	23.62	24.25	24.14	24.75	25.24
	8H	24.20	24.75	24.71	25.24	25.80	23.85	24.40	24.36	24.89	25.46