

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931174

Luminaire Tested: DFN2DS-SQ4F0-120DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931174
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-120DS830-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

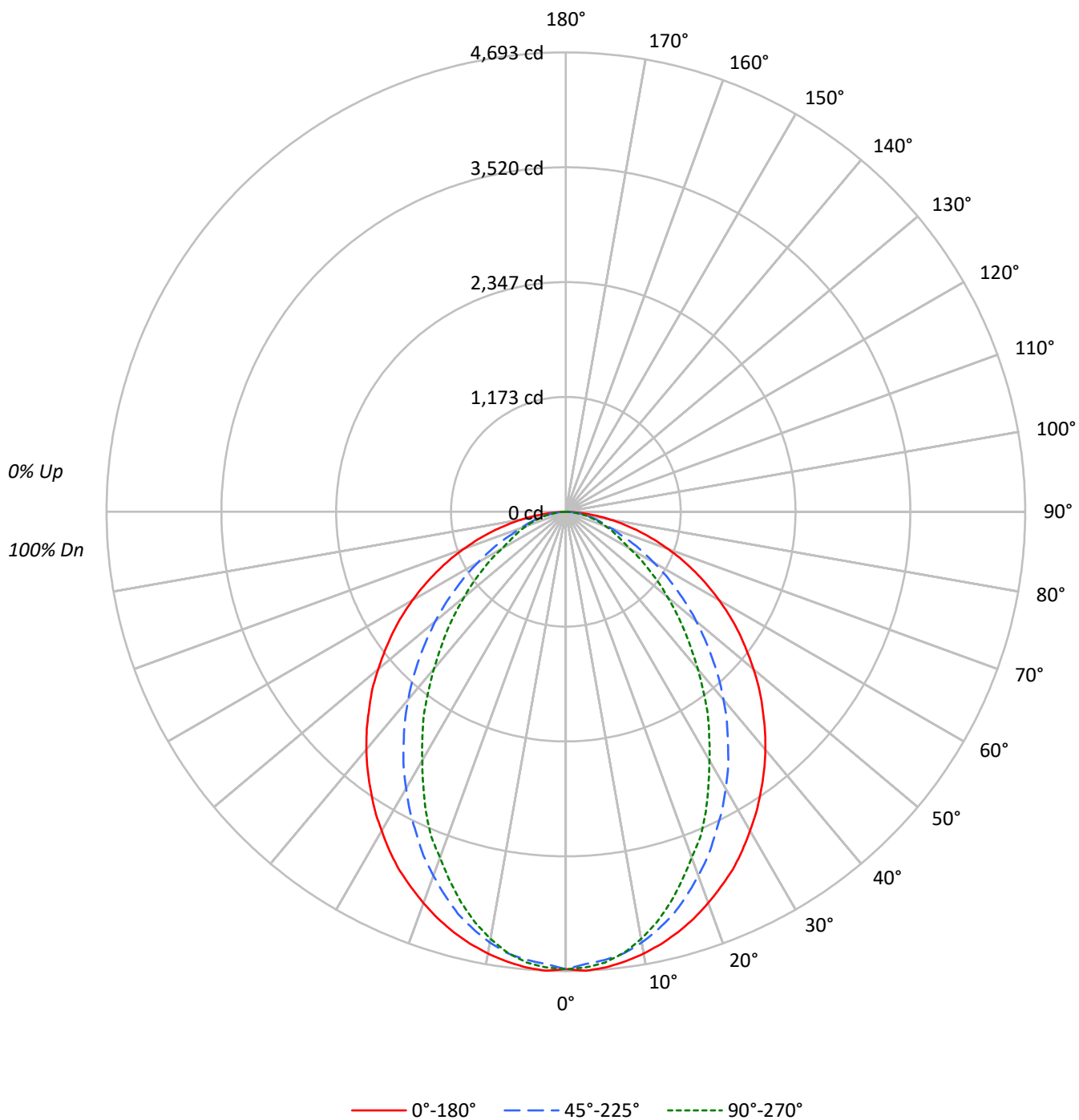
Lumens per Lamp: N/A
Luminaire Lumens: 9608.4 lumens
Efficiency: N/A
Efficacy: 76.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 125.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3278	3278	3278
5°	3291	3237	3255
10°	3265	3184	3157
15°	3228	3090	3001
20°	3176	2955	2807
25°	3123	2802	2619
30°	3049	2644	2377
35°	2977	2474	2166
40°	2905	2296	1921
45°	2819	2098	1699
50°	2732	1897	1482
55°	2643	1681	1273
60°	2540	1453	1056
65°	2422	1221	961
70°	2281	1006	884
75°	2109	917	826
80°	1862	819	752
85°	1463	646	646

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2819 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	437.9	4.6
10°-20°	1202.0	12.5
20°-30°	1687.6	17.6
30°-40°	1839.6	19.1
40°-50°	1690.8	17.6
50°-60°	1327.8	13.8
60°-70°	864.3	9.0
70°-80°	444.9	4.6
80°-90°	113.6	1.2
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°	3327.4	34.6
0°-40°	5167.0	53.8
0°-60°	8185.6	85.2
0°-90°	9608.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9608.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4672	4672	4672	4672	4672	
5°	4672	4651	4596	4634	4621	443
15°	4444	4397	4253	4173	4131	1252
25°	4034	3898	3619	3446	3382	1855
35°	3476	3260	2888	2622	2528	2175
45°	2841	2558	2114	1814	1712	2194
55°	2160	1831	1374	1120	1040	1930
65°	1459	1116	736	592	579	1446
75°	778	482	338	309	304	823
85°	182	93	80	80	80	218
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4671.9	4671.9	4671.9	4671.9	4671.9
2.5°	4693.0	4671.9	4625.3	4667.9	4659.3
5°	4671.9	4650.8	4595.6	4633.8	4621.3
7.5°	4633.8	4608.6	4549.5	4566.1	4545.0
10°	4583.1	4553.5	4469.1	4456.1	4431.1
12.5°	4519.8	4481.8	4367.3	4342.2	4295.6
15°	4443.6	4397.0	4253.4	4173.1	4131.0
17.5°	4354.8	4287.0	4109.4	4016.6	3948.9
20°	4253.4	4168.6	3957.3	3851.9	3758.6
22.5°	4143.5	4046.2	3800.8	3657.2	3594.0
25°	4033.6	3898.1	3619.1	3445.9	3382.3
27.5°	3902.6	3758.6	3450.0	3251.3	3153.9
30°	3763.1	3602.1	3263.8	3048.5	2934.1
32.5°	3627.6	3432.9	3086.7	2832.8	2726.9
35°	3475.6	3259.8	2887.9	2621.5	2528.1
37.5°	3327.5	3094.8	2701.8	2409.7	2304.3
40°	3171.0	2917.6	2507.1	2207.0	2097.1
42.5°	3010.3	2739.9	2312.9	1999.8	1894.4
45°	2841.3	2557.8	2114.1	1813.6	1712.2
47.5°	2680.6	2380.6	1923.9	1623.4	1530.6
50°	2503.1	2203.0	1737.8	1445.8	1357.4
52.5°	2329.5	2012.3	1560.1	1281.1	1200.9
55°	2160.4	1830.7	1374.0	1120.5	1040.3
57.5°	1987.1	1649.0	1209.3	972.5	904.8
60°	1809.6	1471.3	1035.7	820.5	752.8
62.5°	1636.4	1298.2	887.7	685.0	651.3
65°	1458.8	1116.1	735.7	592.1	579.1
67.5°	1289.7	946.9	592.1	519.9	507.4
70°	1112.0	782.3	490.3	448.1	431.1
72.5°	942.9	629.8	410.0	376.3	367.9
75°	777.8	481.7	338.3	308.6	304.5
77.5°	613.2	342.2	266.5	249.4	240.9
80°	460.7	245.4	202.7	186.1	186.1
82.5°	321.2	165.0	139.5	130.9	130.9
85°	181.7	92.9	80.3	80.3	80.3
87.5°	67.7	33.6	33.6	29.6	29.6
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	15.36	16.88	15.72	17.20	17.51	11.32	12.84	11.69	13.16	13.47
	3H	17.13	18.49	17.50	18.82	19.18	12.59	13.95	12.96	14.28	14.64
	4H	17.79	19.07	18.19	19.42	19.80	13.09	14.37	13.49	14.72	15.09
	6H	18.28	19.46	18.69	19.83	20.22	13.47	14.65	13.88	15.02	15.41
	8H	18.45	19.57	18.87	19.96	20.36	13.59	14.72	14.02	15.11	15.51
	12H	18.55	19.63	18.98	20.01	20.44	13.67	14.75	14.10	15.13	15.56
4H	2H	15.46	16.74	15.86	17.09	17.47	12.02	13.30	12.42	13.65	14.02
	3H	17.40	18.46	17.81	18.86	19.26	13.46	14.52	13.87	14.92	15.32
	4H	18.15	19.10	18.58	19.52	19.96	14.06	15.01	14.49	15.43	15.87
	6H	18.74	19.57	19.20	20.01	20.47	14.55	15.38	15.00	15.82	16.28
	8H	18.95	19.73	19.42	20.17	20.64	14.71	15.49	15.17	15.93	16.40
	12H	19.11	19.80	19.59	20.28	20.75	14.83	15.52	15.31	16.00	16.47
8H	4H	18.17	18.95	18.63	19.39	19.86	14.41	15.19	14.88	15.63	16.10
	6H	18.81	19.45	19.30	19.94	20.42	15.00	15.64	15.50	16.13	16.61
	8H	19.06	19.63	19.57	20.14	20.63	15.22	15.80	15.73	16.31	16.79
	12H	19.26	19.77	19.77	20.26	20.83	15.40	15.91	15.91	16.40	16.97
12H	4H	18.16	18.85	18.64	19.33	19.80	14.46	15.15	14.94	15.63	16.10
	6H	18.79	19.37	19.30	19.88	20.36	15.06	15.64	15.58	16.15	16.64
	8H	19.07	19.58	19.58	20.08	20.64	15.33	15.84	15.84	16.34	16.90