

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: P931588

Luminaire Tested: DFN2DS-TR4F0-120DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931588
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-TR4F0-120DS830-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

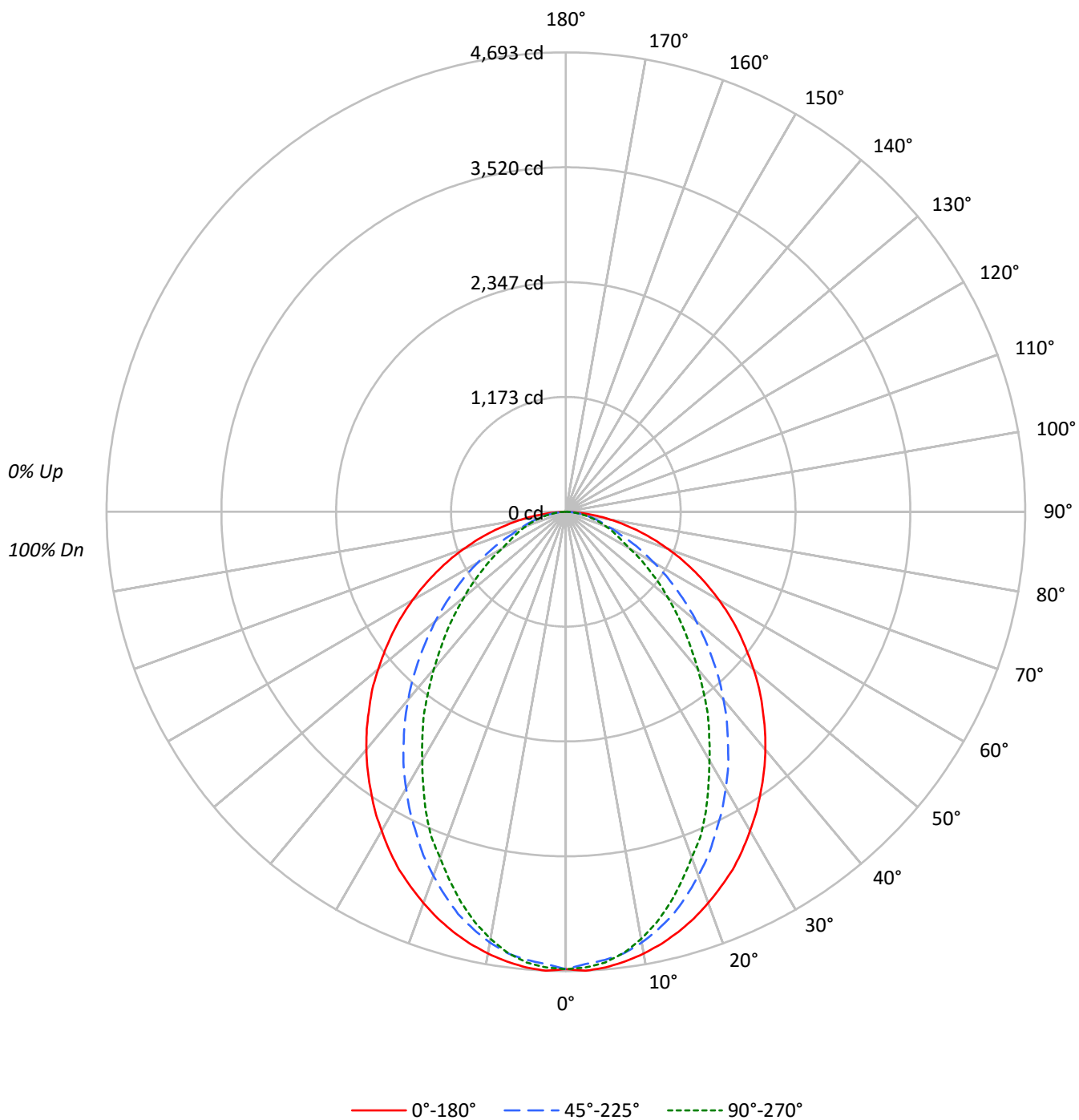
Lumens per Lamp: N/A
Luminaire Lumens: 9608.4 lumens
Efficiency: N/A
Efficacy: 72.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 131.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
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°	3712	3712	3712
5°	3726	3665	3685
10°	3697	3605	3575
15°	3655	3498	3398
20°	3596	3346	3178
25°	3536	3172	2965
30°	3452	2994	2692
35°	3371	2801	2452
40°	3289	2600	2175
45°	3192	2375	1924
50°	3094	2148	1678
55°	2992	1903	1441
60°	2875	1646	1196
65°	2742	1383	1089
70°	2583	1139	1001
75°	2387	1038	935
80°	2108	927	851
85°	1656	732	732

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3192 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	15.79	17.31	16.16	17.63	17.94	11.75	13.27	12.12	13.59	13.90
	3H	17.56	18.92	17.93	19.25	19.61	13.02	14.38	13.39	14.71	15.07
	4H	18.22	19.50	18.62	19.85	20.23	13.52	14.80	13.92	15.15	15.53
	6H	18.71	19.89	19.12	20.26	20.65	13.90	15.08	14.31	15.45	15.84
	8H	18.88	20.00	19.30	20.39	20.79	14.02	15.15	14.45	15.54	15.94
	12H	18.98	20.06	19.41	20.44	20.87	14.10	15.18	14.54	15.57	15.99
4H	2H	15.90	17.18	16.29	17.52	17.90	12.45	13.73	12.85	14.08	14.46
	3H	17.83	18.89	18.24	19.29	19.69	13.89	14.95	14.30	15.35	15.75
	4H	18.58	19.53	19.01	19.95	20.39	14.49	15.45	14.92	15.86	16.30
	6H	19.17	20.00	19.63	20.44	20.90	14.98	15.81	15.44	16.25	16.71
	8H	19.38	20.16	19.85	20.61	21.07	15.14	15.92	15.60	16.36	16.83
	12H	19.54	20.23	20.02	20.71	21.18	15.26	15.95	15.74	16.43	16.90
8H	4H	18.60	19.38	19.07	19.82	20.29	14.84	15.62	15.31	16.07	16.53
	6H	19.24	19.88	19.74	20.37	20.85	15.43	16.07	15.93	16.56	17.04
	8H	19.49	20.07	20.00	20.58	21.06	15.65	16.23	16.16	16.74	17.23
	12H	19.69	20.20	20.20	20.70	21.26	15.83	16.34	16.34	16.83	17.40
12H	4H	18.59	19.28	19.07	19.76	20.23	14.89	15.58	15.37	16.06	16.53
	6H	19.22	19.80	19.73	20.31	20.80	15.49	16.07	16.01	16.58	17.07
	8H	19.50	20.01	20.01	20.51	21.07	15.77	16.28	16.28	16.77	17.33