

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: P931195

Luminaire Tested: DFN2DS-SQ4F0-140DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931195
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-140DS840-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

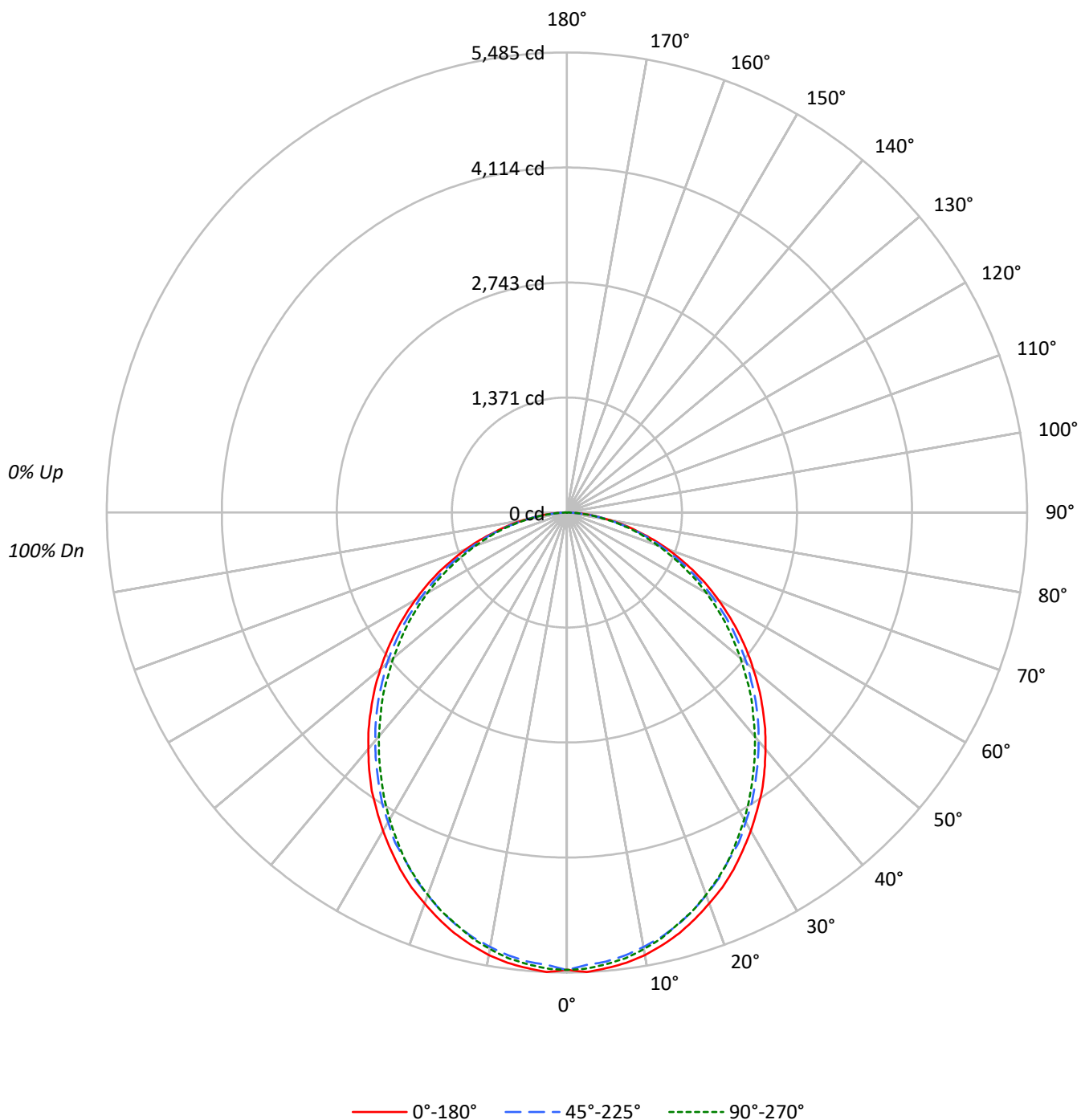
Lumens per Lamp: N/A
Luminaire Lumens: 13873.9 lumens
Efficiency: N/A
Efficacy: 91.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 151.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3826	3826	3826
5°	3841	3786	3808
10°	3818	3747	3766
15°	3771	3698	3695
20°	3704	3626	3622
25°	3637	3536	3536
30°	3552	3454	3424
35°	3472	3355	3306
40°	3372	3256	3194
45°	3273	3158	3080
50°	3165	3056	2948
55°	3054	2938	2829
60°	2928	2796	2693
65°	2795	2655	2533
70°	2625	2485	2367
75°	2388	2288	2232
80°	2120	2055	1949
85°	1729	1648	1478

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3273 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	513.2	3.7
10°-20°	1444.0	10.4
20°-30°	2122.2	15.3
30°-40°	2464.8	17.8
40°-50°	2461.7	17.7
50°-60°	2146.5	15.5
60°-70°	1586.7	11.4
70°-80°	897.8	6.5
80°-90°	237.0	1.7
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°	4079.4	29.4
0°-40°	6544.2	47.2
0°-60°	11152.4	80.4
0°-90°	13873.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13873.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5453	5453	5453	5453	5453	
5°	5453	5432	5374	5416	5406	518
15°	5191	5160	5091	5112	5086	1462
25°	4698	4656	4567	4577	4567	2162
35°	4053	4001	3917	3885	3859	2531
45°	3298	3262	3183	3125	3104	2546
55°	2496	2464	2402	2339	2313	2232
65°	1683	1652	1599	1552	1526	1664
75°	881	871	844	813	823	940
85°	215	210	205	189	184	252
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5452.9	5452.9	5452.9	5452.9	5452.9
2.5°	5484.6	5458.5	5400.6	5452.9	5442.9
5°	5452.9	5432.3	5374.5	5416.2	5406.2
7.5°	5416.2	5385.1	5327.2	5369.5	5358.9
10°	5358.9	5322.2	5259.4	5301.1	5285.5
12.5°	5279.9	5248.7	5185.9	5212.0	5201.5
15°	5190.9	5159.8	5091.3	5112.5	5086.3
17.5°	5080.8	5049.6	4981.2	5007.3	4981.2
20°	4960.1	4928.9	4855.5	4871.1	4850.4
22.5°	4839.8	4792.6	4724.1	4724.1	4713.6
25°	4698.0	4656.3	4567.3	4577.3	4567.3
27.5°	4540.5	4503.9	4436.0	4420.4	4394.3
30°	4383.7	4341.4	4263.0	4247.4	4226.2
32.5°	4215.7	4184.6	4100.5	4068.9	4047.6
35°	4053.2	4001.0	3916.9	3885.3	3859.1
37.5°	3869.7	3822.4	3738.3	3701.7	3675.5
40°	3681.1	3638.8	3554.8	3508.1	3486.9
42.5°	3497.5	3455.3	3371.8	3318.9	3287.8
45°	3298.3	3261.7	3182.7	3125.3	3104.2
47.5°	3104.2	3067.5	2983.5	2925.6	2894.5
50°	2899.5	2873.4	2799.9	2726.4	2700.3
52.5°	2700.3	2663.6	2595.7	2537.8	2501.2
55°	2496.2	2464.5	2401.6	2338.7	2312.6
57.5°	2291.4	2265.3	2196.9	2134.0	2112.8
60°	2086.7	2066.2	1992.7	1934.8	1919.2
62.5°	1887.6	1850.8	1798.5	1746.2	1725.1
65°	1683.4	1651.6	1599.4	1552.1	1525.9
67.5°	1473.7	1446.9	1400.2	1363.5	1342.3
70°	1279.5	1258.4	1211.1	1174.4	1153.8
72.5°	1080.4	1059.2	1033.0	996.4	980.8
75°	880.7	870.7	843.9	812.8	823.3
77.5°	702.6	681.5	670.9	655.4	639.7
80°	524.6	519.0	508.5	492.9	482.3
82.5°	356.6	356.6	351.6	330.4	330.4
85°	214.7	209.7	204.7	188.6	183.6
87.5°	94.6	84.0	73.5	57.9	52.3
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	15.94	17.56	16.31	17.87	18.18	15.50	17.11	15.87	17.43	17.74
	3H	17.69	19.15	18.07	19.48	19.84	17.20	18.66	17.58	18.98	19.35
	4H	18.34	19.71	18.74	20.06	20.43	17.85	19.22	18.24	19.56	19.94
	6H	18.81	20.08	19.22	20.44	20.83	18.31	19.58	18.72	19.94	20.33
	8H	18.95	20.16	19.38	20.55	20.95	18.45	19.66	18.87	20.05	20.45
	12H	19.04	20.20	19.47	20.59	21.01	18.53	19.69	18.96	20.07	20.50
4H	2H	16.51	17.87	16.90	18.22	18.60	16.15	17.52	16.55	17.87	18.25
	3H	18.48	19.63	18.89	20.02	20.42	18.07	19.22	18.48	19.62	20.02
	4H	19.26	20.29	19.69	20.71	21.14	18.83	19.87	19.26	20.28	20.72
	6H	19.85	20.76	20.31	21.20	21.66	19.42	20.33	19.88	20.77	21.22
	8H	20.04	20.89	20.50	21.33	21.80	19.60	20.45	20.07	20.89	21.36
	12H	20.17	20.93	20.65	21.41	21.88	19.72	20.48	20.20	20.96	21.43
8H	4H	19.53	20.38	19.99	20.82	21.28	19.16	20.00	19.62	20.44	20.91
	6H	20.24	20.95	20.74	21.44	21.91	19.86	20.57	20.36	21.05	21.53
	8H	20.50	21.13	21.01	21.64	22.13	20.11	20.74	20.62	21.25	21.74
	12H	20.70	21.26	21.21	21.75	22.31	20.29	20.85	20.80	21.34	21.90
12H	4H	19.56	20.32	20.04	20.79	21.26	19.19	19.95	19.67	20.43	20.90
	6H	20.29	20.92	20.80	21.43	21.91	19.92	20.55	20.43	21.06	21.55
	8H	20.60	21.16	21.11	21.65	22.21	20.23	20.78	20.73	21.27	21.84