

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: P931191

Luminaire Tested: DFN2DS-SQ4F0-140DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931191
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-SQ4F0-140DS830-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

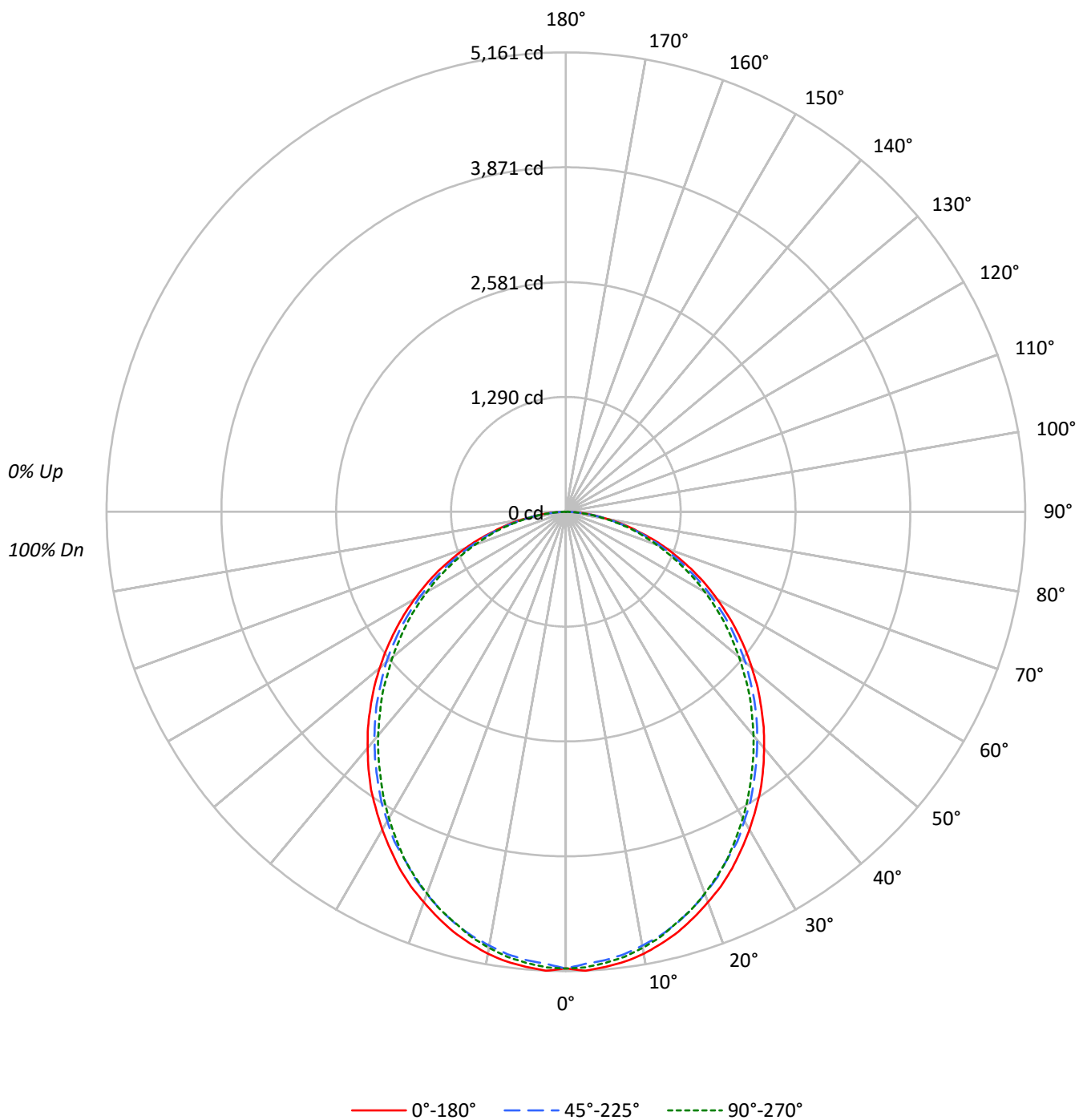
Lumens per Lamp: N/A
Luminaire Lumens: 13056.1 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P931191

CATALOG NUMBER: DFN2DS-SQ4F0-140DS830-FLL

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°	3601	3601	3601
5°	3614	3562	3583
10°	3593	3526	3544
15°	3549	3480	3477
20°	3485	3412	3408
25°	3423	3328	3328
30°	3342	3250	3222
35°	3267	3157	3111
40°	3173	3064	3006
45°	3080	2972	2899
50°	2979	2876	2774
55°	2874	2765	2662
60°	2756	2632	2535
65°	2630	2499	2384
70°	2470	2338	2227
75°	2247	2153	2101
80°	1995	1934	1834
85°	1627	1551	1391

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3080 cd/sqm

TEST NUMBER: P931191

CATALOG NUMBER: DFN2DS-SQ4F0-140DS830-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	483.0	3.7
10°-20°	1358.9	10.4
20°-30°	1997.1	15.3
30°-40°	2319.5	17.8
40°-50°	2316.6	17.7
50°-60°	2020.0	15.5
60°-70°	1493.2	11.4
70°-80°	844.8	6.5
80°-90°	223.0	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°	3839.0	29.4
0°-40°	6158.5	47.2
0°-60°	10495.1	80.4
0°-90°	13056.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13056.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5132	5132	5132	5132	5132	
5°	5132	5112	5058	5097	5088	487
15°	4885	4856	4791	4811	4786	1376
25°	4421	4382	4298	4308	4298	2034
35°	3814	3765	3686	3656	3632	2382
45°	3104	3069	2995	2941	2921	2395
55°	2349	2319	2260	2201	2176	2100
65°	1584	1554	1505	1461	1436	1566
75°	829	819	794	765	775	885
85°	202	197	193	178	173	238
90°	0	0	0	0	0	

TEST NUMBER: P931191

CATALOG NUMBER: DFN2DS-SQ4F0-140DS830-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5131.5	5131.5	5131.5	5131.5	5131.5
2.5°	5161.3	5136.7	5082.3	5131.5	5122.1
5°	5131.5	5112.1	5057.7	5097.0	5087.6
7.5°	5097.0	5067.7	5013.2	5053.0	5043.0
10°	5043.0	5008.5	4949.4	4988.6	4973.9
12.5°	4968.7	4939.4	4880.2	4904.8	4894.9
15°	4884.9	4855.6	4791.2	4811.2	4786.5
17.5°	4781.3	4752.0	4687.6	4712.2	4687.6
20°	4667.7	4638.4	4569.3	4584.0	4564.6
22.5°	4554.6	4510.1	4445.7	4445.7	4435.8
25°	4421.1	4381.8	4298.1	4307.5	4298.1
27.5°	4272.9	4238.4	4174.6	4159.9	4135.3
30°	4125.3	4085.5	4011.7	3997.1	3977.1
32.5°	3967.2	3937.9	3858.8	3829.0	3809.1
35°	3814.3	3765.2	3686.0	3656.3	3631.6
37.5°	3641.6	3597.1	3518.0	3483.5	3458.8
40°	3464.1	3424.4	3345.2	3301.3	3281.4
42.5°	3291.3	3251.6	3173.0	3123.3	3094.0
45°	3103.9	3069.4	2995.1	2941.1	2921.2
47.5°	2921.2	2886.7	2807.6	2753.2	2723.9
50°	2728.6	2704.0	2634.9	2565.7	2541.1
52.5°	2541.1	2506.6	2442.7	2388.3	2353.8
55°	2349.1	2319.2	2260.0	2200.9	2176.3
57.5°	2156.3	2131.7	2067.4	2008.2	1988.3
60°	1963.7	1944.4	1875.2	1820.8	1806.1
62.5°	1776.3	1741.8	1692.5	1643.3	1623.4
65°	1584.2	1554.3	1505.1	1460.6	1436.0
67.5°	1386.8	1361.7	1317.7	1283.1	1263.2
70°	1204.1	1184.2	1139.7	1105.2	1085.7
72.5°	1016.7	996.7	972.1	937.7	923.0
75°	828.8	819.4	794.2	764.9	774.8
77.5°	661.2	641.3	631.3	616.7	602.0
80°	493.7	488.4	478.5	463.8	453.9
82.5°	335.5	335.5	330.8	311.0	311.0
85°	202.1	197.3	192.6	177.5	172.8
87.5°	89.0	79.0	69.1	54.4	49.2
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931191

CATALOG NUMBER: DFN2DS-SQ4F0-140DS830-FLL

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	15.73	17.34	16.10	17.66	17.97	15.29	16.90	15.65	17.21	17.53
	3H	17.48	18.94	17.86	19.26	19.63	16.99	18.45	17.37	18.77	19.13
	4H	18.13	19.50	18.53	19.85	20.22	17.64	19.00	18.03	19.35	19.73
	6H	18.60	19.87	19.01	20.23	20.62	18.10	19.37	18.51	19.73	20.12
	8H	18.74	19.95	19.17	20.34	20.74	18.24	19.45	18.66	19.84	20.24
	12H	18.83	19.99	19.26	20.37	20.80	18.32	19.48	18.75	19.86	20.29
4H	2H	16.29	17.66	16.69	18.01	18.39	15.94	17.31	16.34	17.66	18.03
	3H	18.27	19.42	18.68	19.81	20.21	17.86	19.01	18.27	19.41	19.81
	4H	19.05	20.08	19.48	20.50	20.93	18.62	19.66	19.05	20.07	20.51
	6H	19.64	20.55	20.10	20.99	21.44	19.21	20.11	19.66	20.56	21.01
	8H	19.83	20.68	20.29	21.12	21.59	19.39	20.24	19.85	20.68	21.15
	12H	19.96	20.72	20.44	21.20	21.67	19.51	20.27	19.99	20.75	21.22
8H	4H	19.32	20.17	19.78	20.61	21.07	18.94	19.79	19.41	20.23	20.70
	6H	20.03	20.74	20.53	21.22	21.70	19.65	20.35	20.15	20.84	21.32
	8H	20.29	20.92	20.80	21.43	21.92	19.90	20.53	20.41	21.04	21.52
	12H	20.49	21.05	21.00	21.54	22.10	20.08	20.64	20.59	21.13	21.69
12H	4H	19.35	20.10	19.83	20.58	21.05	18.98	19.74	19.46	20.22	20.69
	6H	20.08	20.71	20.59	21.22	21.70	19.71	20.34	20.22	20.85	21.33
	8H	20.39	20.95	20.90	21.44	22.00	20.01	20.57	20.52	21.06	21.62