

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: P931203

Luminaire Tested: DFN2DS-SQ4F0-140DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931203
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-SQ4F0-140DS935-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

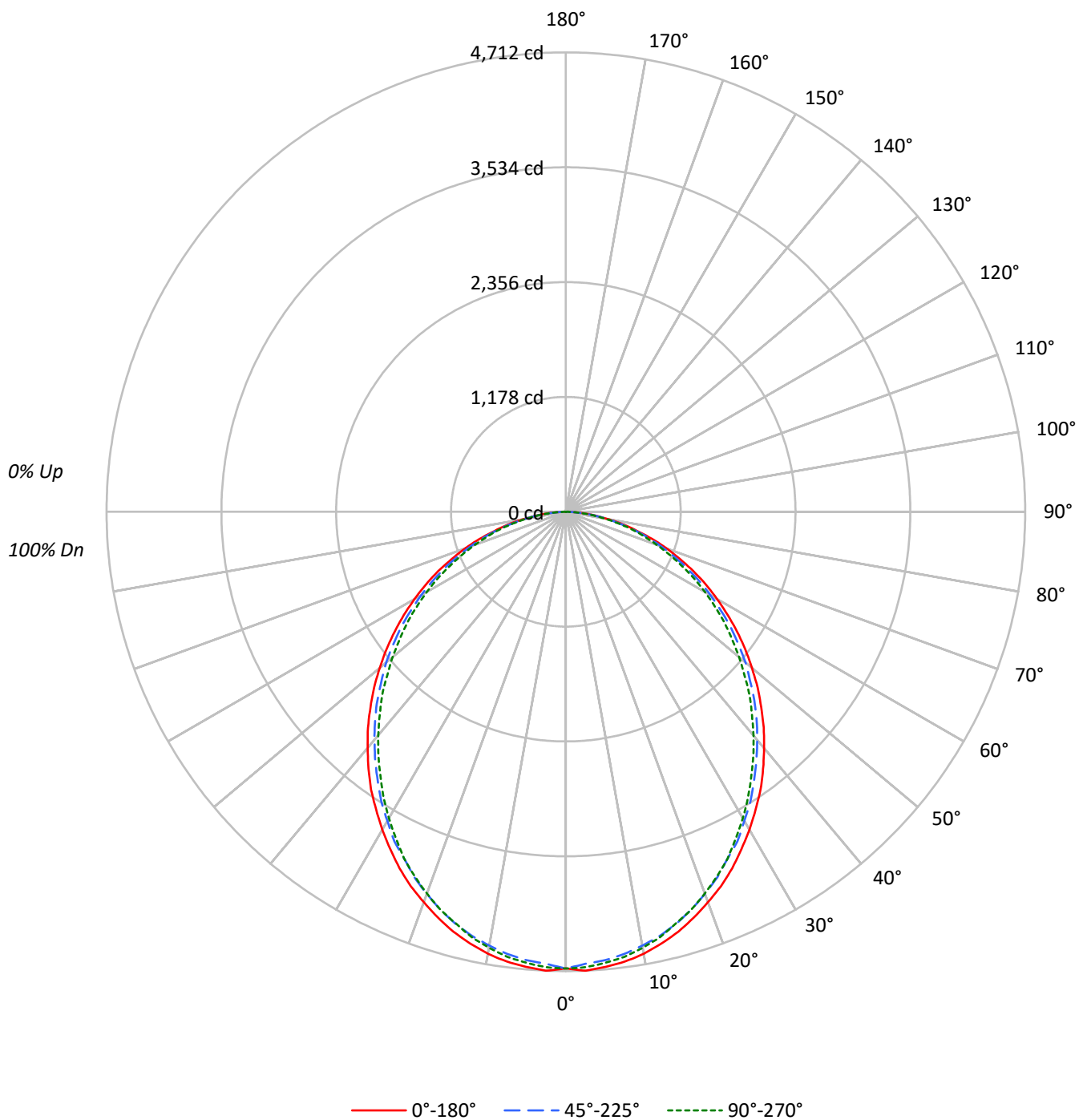
Lumens per Lamp: N/A
Luminaire Lumens: 11919.6 lumens
Efficiency: N/A
Efficacy: 78.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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
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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3287	3287	3287
5°	3300	3252	3272
10°	3280	3219	3235
15°	3240	3177	3174
20°	3182	3115	3112
25°	3125	3038	3038
30°	3051	2967	2942
35°	2983	2883	2840
40°	2897	2797	2744
45°	2812	2713	2646
50°	2719	2626	2532
55°	2624	2524	2431
60°	2516	2403	2314
65°	2401	2281	2177
70°	2255	2135	2034
75°	2051	1966	1918
80°	1821	1765	1674
85°	1485	1416	1270

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2812 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	440.9	3.7
10°-20°	1240.6	10.4
20°-30°	1823.2	15.3
30°-40°	2117.6	17.8
40°-50°	2114.9	17.7
50°-60°	1844.2	15.5
60°-70°	1363.2	11.4
70°-80°	771.3	6.5
80°-90°	203.6	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°	3504.8	29.4
0°-40°	5622.4	47.2
0°-60°	9581.5	80.4
0°-90°	11919.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11919.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4685	4685	4685	4685	4685	
5°	4685	4667	4617	4653	4645	445
15°	4460	4433	4374	4392	4370	1256
25°	4036	4000	3924	3932	3924	1857
35°	3482	3437	3365	3338	3316	2175
45°	2834	2802	2734	2685	2667	2187
55°	2145	2117	2063	2009	1987	1917
65°	1446	1419	1374	1333	1311	1430
75°	757	748	725	698	707	808
85°	184	180	176	162	158	217
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4684.8	4684.8	4684.8	4684.8	4684.8
2.5°	4712.0	4689.6	4639.9	4684.8	4676.2
5°	4684.8	4667.1	4617.4	4653.3	4644.7
7.5°	4653.3	4626.5	4576.8	4613.1	4604.0
10°	4604.0	4572.5	4518.5	4554.4	4541.0
12.5°	4536.2	4509.4	4455.4	4477.8	4468.8
15°	4459.7	4433.0	4374.1	4392.4	4369.8
17.5°	4365.1	4338.4	4279.5	4302.0	4279.5
20°	4261.4	4234.6	4171.5	4184.9	4167.2
22.5°	4158.1	4117.5	4058.7	4058.7	4049.7
25°	4036.2	4000.4	3923.9	3932.5	3923.9
27.5°	3901.0	3869.5	3811.2	3797.8	3775.3
30°	3766.2	3729.9	3662.5	3649.2	3630.9
32.5°	3621.9	3595.1	3522.9	3495.7	3477.5
35°	3482.3	3437.4	3365.2	3338.0	3315.5
37.5°	3324.6	3284.0	3211.8	3180.3	3157.7
40°	3162.6	3126.3	3054.0	3014.0	2995.7
42.5°	3004.8	2968.5	2896.8	2851.4	2824.7
45°	2833.7	2802.2	2734.4	2685.1	2666.9
47.5°	2666.9	2635.4	2563.2	2513.5	2486.8
50°	2491.1	2468.6	2405.5	2342.4	2319.9
52.5°	2319.9	2288.4	2230.1	2180.4	2148.9
55°	2144.6	2117.3	2063.3	2009.3	1986.9
57.5°	1968.6	1946.2	1887.4	1833.4	1815.2
60°	1792.8	1775.1	1712.0	1662.3	1648.9
62.5°	1621.7	1590.1	1545.2	1500.3	1482.1
65°	1446.3	1419.0	1374.1	1333.4	1311.0
67.5°	1266.1	1243.1	1203.0	1171.4	1153.3
70°	1099.3	1081.1	1040.5	1009.0	991.2
72.5°	928.2	910.0	887.5	856.0	842.6
75°	756.6	748.0	725.1	698.3	707.4
77.5°	603.6	585.5	576.4	563.0	549.6
80°	450.7	445.9	436.9	423.5	414.3
82.5°	306.3	306.3	302.0	283.9	283.9
85°	184.5	180.2	175.9	162.0	157.7
87.5°	81.3	72.2	63.1	49.7	44.9
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	15.42	17.03	15.78	17.34	17.66	14.97	16.58	15.34	16.90	17.21
	3H	17.17	18.62	17.54	18.95	19.31	16.68	18.13	17.05	18.46	18.82
	4H	17.81	19.18	18.21	19.53	19.91	17.32	18.69	17.72	19.04	19.41
	6H	18.28	19.55	18.69	19.92	20.31	17.78	19.05	18.19	19.41	19.81
	8H	18.43	19.64	18.85	20.03	20.42	17.92	19.13	18.35	19.52	19.92
	12H	18.52	19.68	18.95	20.06	20.49	18.00	19.16	18.43	19.55	19.97
4H	2H	15.98	17.35	16.38	17.69	18.07	15.62	16.99	16.02	17.34	17.72
	3H	17.95	19.10	18.36	19.50	19.90	17.55	18.69	17.96	19.09	19.49
	4H	18.73	19.77	19.16	20.18	20.62	18.31	19.34	18.74	19.75	20.19
	6H	19.33	20.23	19.78	20.67	21.13	18.89	19.80	19.35	20.24	20.70
	8H	19.52	20.36	19.98	20.80	21.27	19.08	19.92	19.54	20.37	20.83
	12H	19.65	20.41	20.13	20.88	21.35	19.19	19.95	19.68	20.43	20.90
8H	4H	19.00	19.85	19.46	20.29	20.76	18.63	19.47	19.09	19.92	20.38
	6H	19.72	20.42	20.21	20.91	21.38	19.34	20.04	19.83	20.53	21.00
	8H	19.98	20.61	20.49	21.11	21.60	19.58	20.22	20.09	20.72	21.21
	12H	20.18	20.73	20.68	21.22	21.79	19.76	20.32	20.27	20.81	21.37
12H	4H	19.03	19.79	19.51	20.26	20.73	18.66	19.42	19.14	19.90	20.37
	6H	19.76	20.39	20.27	20.90	21.39	19.39	20.03	19.90	20.53	21.02
	8H	20.08	20.63	20.58	21.12	21.69	19.70	20.26	20.21	20.75	21.31