

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: P931205

Luminaire Tested: DFN2DS-SQ4F0-140DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931205
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-SQ4F0-140DS940-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

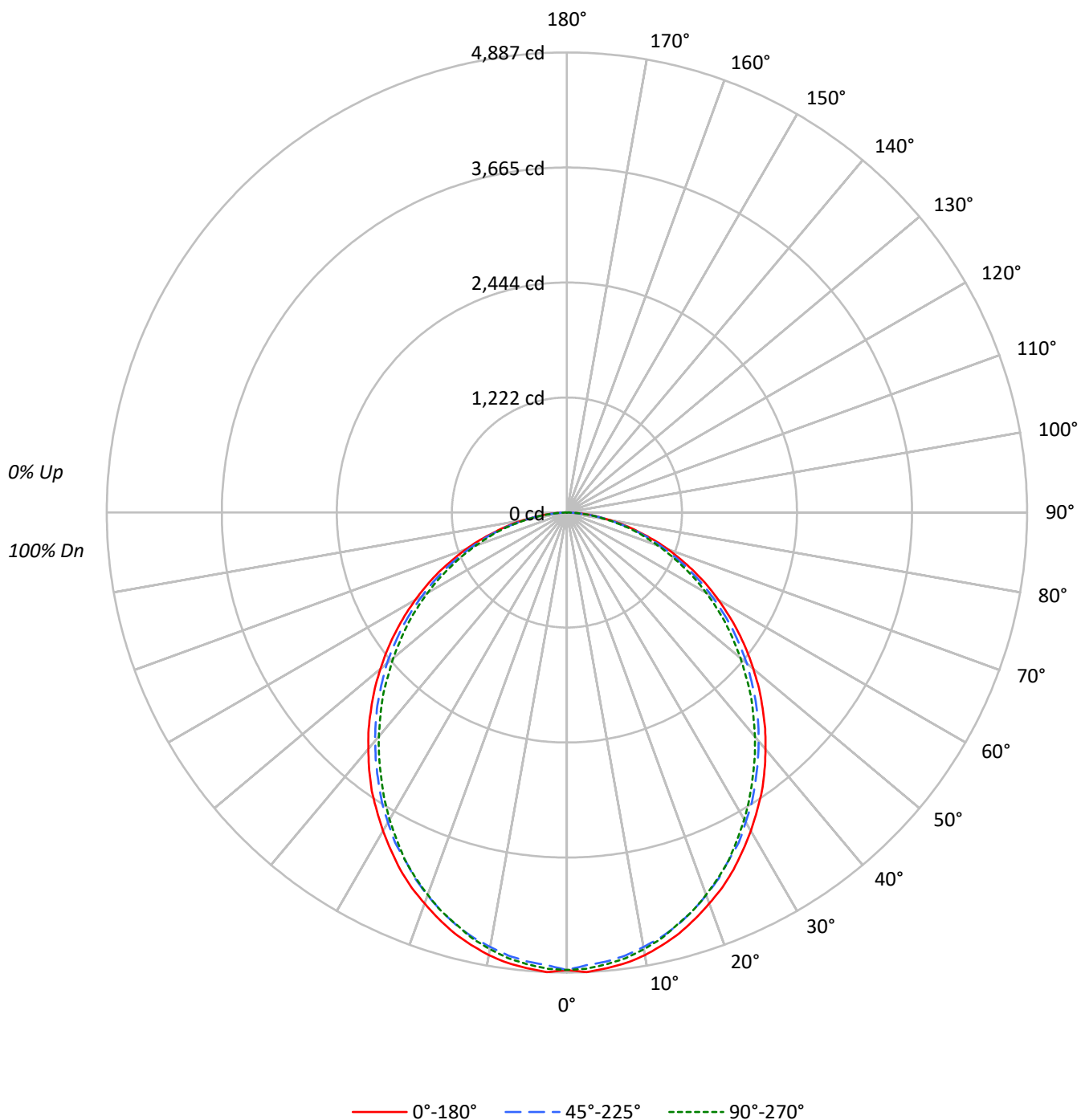
Lumens per Lamp: N/A
Luminaire Lumens: 12363.1 lumens
Efficiency: N/A
Efficacy: 81.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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
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°	3410	3410	3410
5°	3423	3373	3393
10°	3402	3339	3356
15°	3360	3296	3292
20°	3300	3231	3227
25°	3241	3151	3151
30°	3165	3078	3051
35°	3094	2990	2946
40°	3005	2902	2846
45°	2917	2814	2745
50°	2821	2724	2627
55°	2721	2618	2521
60°	2610	2492	2400
65°	2491	2366	2258
70°	2339	2214	2109
75°	2128	2039	1989
80°	1889	1831	1737
85°	1540	1468	1317

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2917 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	457.3	3.7
10°-20°	1286.8	10.4
20°-30°	1891.1	15.3
30°-40°	2196.4	17.8
40°-50°	2193.6	17.7
50°-60°	1912.8	15.5
60°-70°	1414.0	11.4
70°-80°	800.0	6.5
80°-90°	211.1	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°	3635.2	29.4
0°-40°	5831.6	47.2
0°-60°	9938.0	80.4
0°-90°	12363.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12363.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4859	4859	4859	4859	4859	
5°	4859	4841	4789	4826	4818	461
15°	4626	4598	4537	4556	4532	1303
25°	4186	4149	4070	4079	4070	1926
35°	3612	3565	3490	3462	3439	2255
45°	2939	2906	2836	2785	2766	2268
55°	2224	2196	2140	2084	2061	1989
65°	1500	1472	1425	1383	1360	1483
75°	785	776	752	724	734	838
85°	191	187	182	168	164	225
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4859.2	4859.2	4859.2	4859.2	4859.2
2.5°	4887.4	4864.1	4812.5	4859.2	4850.2
5°	4859.2	4840.8	4789.2	4826.4	4817.5
7.5°	4826.4	4798.7	4747.1	4784.8	4775.3
10°	4775.3	4742.7	4686.7	4723.9	4709.9
12.5°	4704.9	4677.2	4621.2	4644.5	4635.1
15°	4625.6	4597.9	4536.9	4555.8	4532.4
17.5°	4527.5	4499.8	4438.8	4462.1	4438.8
20°	4419.9	4392.2	4326.7	4340.7	4322.3
22.5°	4312.8	4270.7	4209.7	4209.7	4200.3
25°	4186.4	4149.2	4069.9	4078.8	4069.9
27.5°	4046.1	4013.5	3953.0	3939.1	3915.8
30°	3906.3	3868.7	3798.8	3784.9	3766.0
32.5°	3756.7	3728.9	3654.0	3625.8	3606.9
35°	3611.9	3565.3	3490.4	3462.2	3438.8
37.5°	3448.3	3406.2	3331.3	3298.6	3275.2
40°	3280.2	3242.6	3167.7	3126.1	3107.2
42.5°	3116.6	3079.0	3004.6	2957.5	2929.8
45°	2939.1	2906.5	2836.1	2785.0	2766.2
47.5°	2766.2	2733.4	2658.6	2607.0	2579.3
50°	2583.8	2560.5	2495.0	2429.5	2406.3
52.5°	2406.3	2373.5	2313.0	2261.5	2228.8
55°	2224.4	2196.1	2140.1	2084.1	2060.8
57.5°	2041.9	2018.6	1957.7	1901.7	1882.7
60°	1859.5	1841.2	1775.7	1724.1	1710.2
62.5°	1682.0	1649.3	1602.7	1556.1	1537.3
65°	1500.1	1471.8	1425.2	1383.0	1359.8
67.5°	1313.2	1289.4	1247.7	1215.0	1196.2
70°	1140.2	1121.3	1079.2	1046.5	1028.1
72.5°	962.7	943.8	920.5	887.9	874.0
75°	784.8	775.9	752.0	724.3	733.7
77.5°	626.1	607.3	597.8	584.0	570.1
80°	467.5	462.5	453.1	439.2	429.8
82.5°	317.7	317.7	313.3	294.4	294.4
85°	191.3	186.9	182.4	168.1	163.6
87.5°	84.3	74.8	65.5	51.6	46.6
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	15.54	17.15	15.91	17.47	17.78	15.10	16.71	15.46	17.02	17.34
	3H	17.29	18.75	17.67	19.08	19.44	16.80	18.26	17.18	18.58	18.94
	4H	17.94	19.31	18.34	19.66	20.03	17.45	18.81	17.84	19.16	19.54
	6H	18.41	19.68	18.82	20.04	20.43	17.91	19.18	18.32	19.54	19.93
	8H	18.55	19.76	18.98	20.15	20.55	18.05	19.26	18.47	19.65	20.05
	12H	18.64	19.80	19.07	20.18	20.61	18.13	19.29	18.56	19.67	20.10
4H	2H	16.10	17.47	16.50	17.82	18.20	15.75	17.12	16.15	17.47	17.84
	3H	18.08	19.23	18.49	19.62	20.02	17.67	18.82	18.08	19.22	19.62
	4H	18.86	19.89	19.29	20.31	20.74	18.43	19.47	18.86	19.88	20.32
	6H	19.45	20.36	19.91	20.80	21.25	19.02	19.93	19.47	20.37	20.82
	8H	19.64	20.49	20.10	20.93	21.40	19.20	20.05	19.66	20.49	20.96
	12H	19.77	20.53	20.25	21.01	21.48	19.32	20.08	19.80	20.56	21.03
8H	4H	19.13	19.98	19.59	20.42	20.88	18.76	19.60	19.22	20.04	20.51
	6H	19.84	20.55	20.34	21.04	21.51	19.46	20.17	19.96	20.65	21.13
	8H	20.10	20.73	20.61	21.24	21.73	19.71	20.34	20.22	20.85	21.33
	12H	20.30	20.86	20.81	21.35	21.91	19.89	20.45	20.40	20.94	21.50
12H	4H	19.16	19.92	19.64	20.39	20.86	18.79	19.55	19.27	20.03	20.50
	6H	19.89	20.52	20.40	21.03	21.51	19.52	20.15	20.03	20.66	21.15
	8H	20.20	20.76	20.71	21.25	21.81	19.83	20.38	20.33	20.87	21.43