

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: P931087

Luminaire Tested: DFN2DS-SQ4F0-070DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931087
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-SQ4F0-070DS840-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

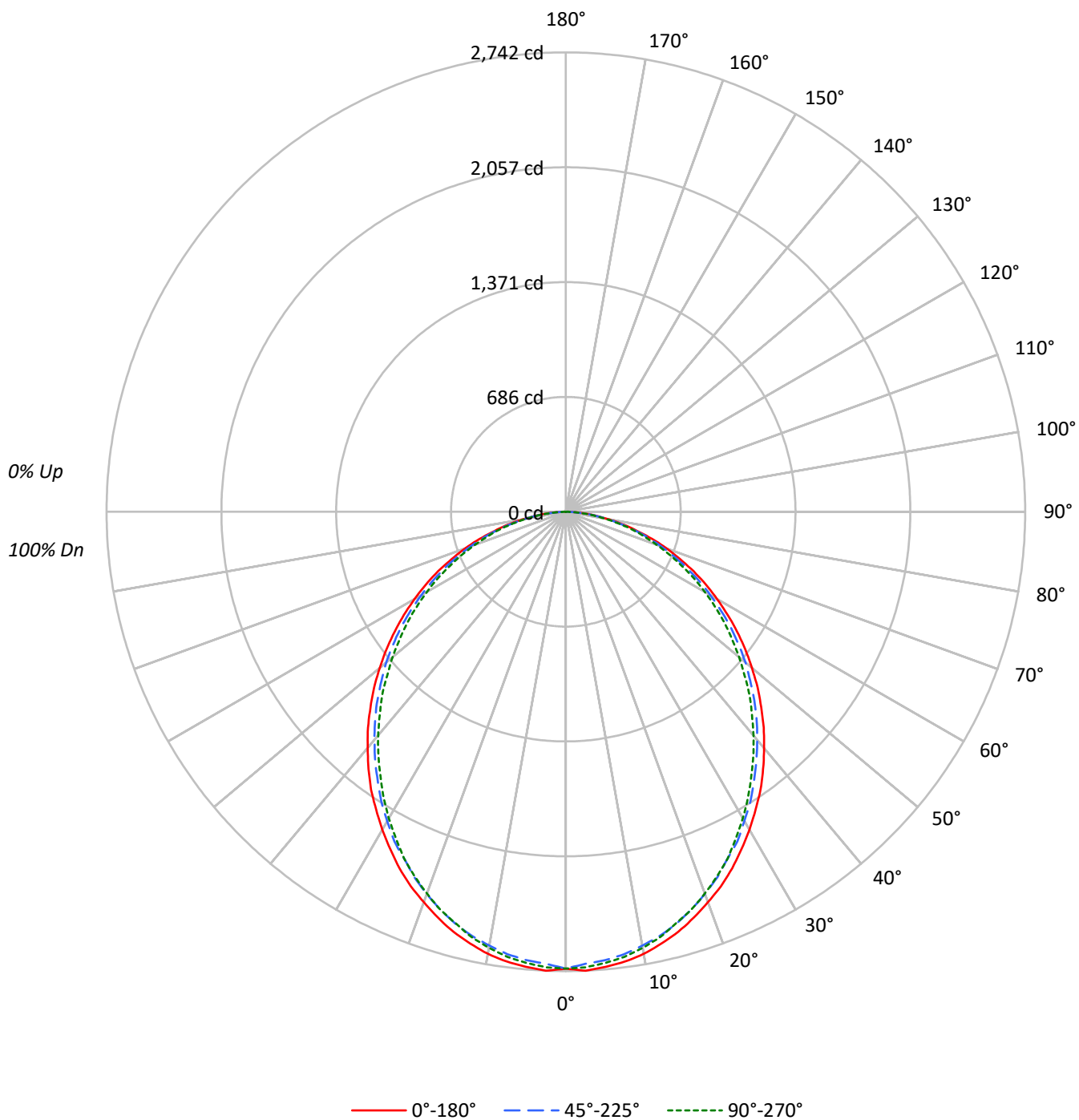
Lumens per Lamp: N/A
Luminaire Lumens: 6936.9 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 69.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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°	1913	1913	1913
5°	1920	1893	1904
10°	1909	1874	1883
15°	1885	1849	1847
20°	1852	1813	1811
25°	1819	1768	1768
30°	1776	1727	1712
35°	1736	1678	1653
40°	1686	1628	1597
45°	1636	1579	1540
50°	1583	1528	1474
55°	1527	1469	1415
60°	1464	1398	1347
65°	1397	1328	1267
70°	1312	1242	1184
75°	1194	1144	1116
80°	1060	1028	974
85°	865	824	739

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1636 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.6	3.7
10°-20°	722.0	10.4
20°-30°	1061.1	15.3
30°-40°	1232.4	17.8
40°-50°	1230.8	17.7
50°-60°	1073.3	15.5
60°-70°	793.4	11.4
70°-80°	448.9	6.5
80°-90°	118.5	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°	2039.7	29.4
0°-40°	3272.1	47.2
0°-60°	5576.2	80.4
0°-90°	6936.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6936.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2726	2726	2726	2726	2726	
5°	2726	2716	2687	2708	2703	259
15°	2596	2580	2546	2556	2543	731
25°	2349	2328	2284	2289	2284	1081
35°	2027	2000	1958	1943	1930	1266
45°	1649	1631	1591	1563	1552	1273
55°	1248	1232	1201	1169	1156	1116
65°	842	826	800	776	763	832
75°	440	435	422	406	412	470
85°	107	105	102	94	92	126
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2726.4	2726.4	2726.4	2726.4	2726.4
2.5°	2742.3	2729.2	2700.3	2726.4	2721.4
5°	2726.4	2716.2	2687.3	2708.1	2703.1
7.5°	2708.1	2692.5	2663.6	2684.8	2679.5
10°	2679.5	2661.1	2629.6	2650.5	2642.7
12.5°	2639.9	2624.4	2593.0	2606.0	2600.7
15°	2595.5	2579.9	2545.6	2556.3	2543.1
17.5°	2540.3	2524.8	2490.6	2503.7	2490.6
20°	2480.0	2464.5	2427.7	2435.5	2425.2
22.5°	2419.9	2396.3	2362.1	2362.1	2356.8
25°	2349.0	2328.1	2283.7	2288.7	2283.7
27.5°	2270.3	2251.9	2218.0	2210.2	2197.1
30°	2191.9	2170.7	2131.5	2123.7	2113.1
32.5°	2107.8	2092.3	2050.2	2034.4	2023.8
35°	2026.6	2000.5	1958.5	1942.6	1929.5
37.5°	1934.8	1911.2	1869.2	1850.8	1837.7
40°	1840.5	1819.4	1777.4	1754.1	1743.4
42.5°	1748.7	1727.6	1685.9	1659.5	1643.8
45°	1649.1	1630.8	1591.3	1562.7	1552.1
47.5°	1552.1	1533.7	1491.7	1462.8	1447.2
50°	1449.7	1436.6	1399.9	1363.3	1350.1
52.5°	1350.1	1331.8	1297.9	1269.0	1250.5
55°	1248.0	1232.2	1200.8	1169.4	1156.3
57.5°	1145.7	1132.6	1098.4	1067.0	1056.5
60°	1043.3	1033.0	996.4	967.5	959.7
62.5°	943.7	925.4	899.3	873.2	862.6
65°	841.7	825.8	799.7	776.1	763.0
67.5°	736.8	723.5	700.1	681.8	671.2
70°	639.7	629.2	605.5	587.2	576.9
72.5°	540.1	529.6	516.5	498.2	490.4
75°	440.3	435.3	421.9	406.4	411.7
77.5°	351.4	340.7	335.4	327.6	319.9
80°	262.3	259.6	254.3	246.4	241.1
82.5°	178.3	178.3	175.8	165.3	165.3
85°	107.4	104.9	102.4	94.3	91.8
87.5°	47.2	42.0	36.7	28.9	26.1
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	13.54	15.15	13.90	15.46	15.78	13.09	14.70	13.46	15.02	15.33
	3H	15.29	16.74	15.66	17.07	17.43	14.80	16.25	15.17	16.58	16.94
	4H	15.93	17.30	16.33	17.65	18.03	15.44	16.81	15.84	17.16	17.53
	6H	16.40	17.67	16.81	18.04	18.43	15.90	17.17	16.31	17.53	17.92
	8H	16.55	17.76	16.97	18.14	18.54	16.04	17.25	16.47	17.64	18.04
	12H	16.64	17.80	17.06	18.18	18.61	16.12	17.28	16.55	17.67	18.09
4H	2H	14.10	15.47	14.50	15.81	16.19	13.74	15.11	14.14	15.46	15.84
	3H	16.07	17.22	16.48	17.62	18.02	15.67	16.81	16.07	17.21	17.61
	4H	16.85	17.88	17.28	18.30	18.73	16.42	17.46	16.86	17.87	18.31
	6H	17.45	18.35	17.90	18.79	19.25	17.01	17.92	17.47	18.36	18.81
	8H	17.63	18.48	18.10	18.92	19.39	17.20	18.04	17.66	18.49	18.95
	12H	17.77	18.53	18.25	19.00	19.47	17.31	18.07	17.79	18.55	19.02
8H	4H	17.12	17.97	17.58	18.41	18.88	16.75	17.59	17.21	18.04	18.50
	6H	17.84	18.54	18.33	19.03	19.50	17.45	18.16	17.95	18.65	19.12
	8H	18.10	18.73	18.61	19.23	19.72	17.70	18.33	18.21	18.84	19.33
	12H	18.30	18.85	18.80	19.34	19.90	17.88	18.44	18.39	18.93	19.49
12H	4H	17.15	17.91	17.63	18.38	18.85	16.78	17.54	17.26	18.02	18.49
	6H	17.88	18.51	18.39	19.02	19.51	17.51	18.14	18.02	18.65	19.14
	8H	18.20	18.75	18.70	19.24	19.81	17.82	18.38	18.32	18.87	19.43