

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: P931501

Luminaire Tested: DFN2DS-TR4F0-070DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931501
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-TR4F0-070DS840-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

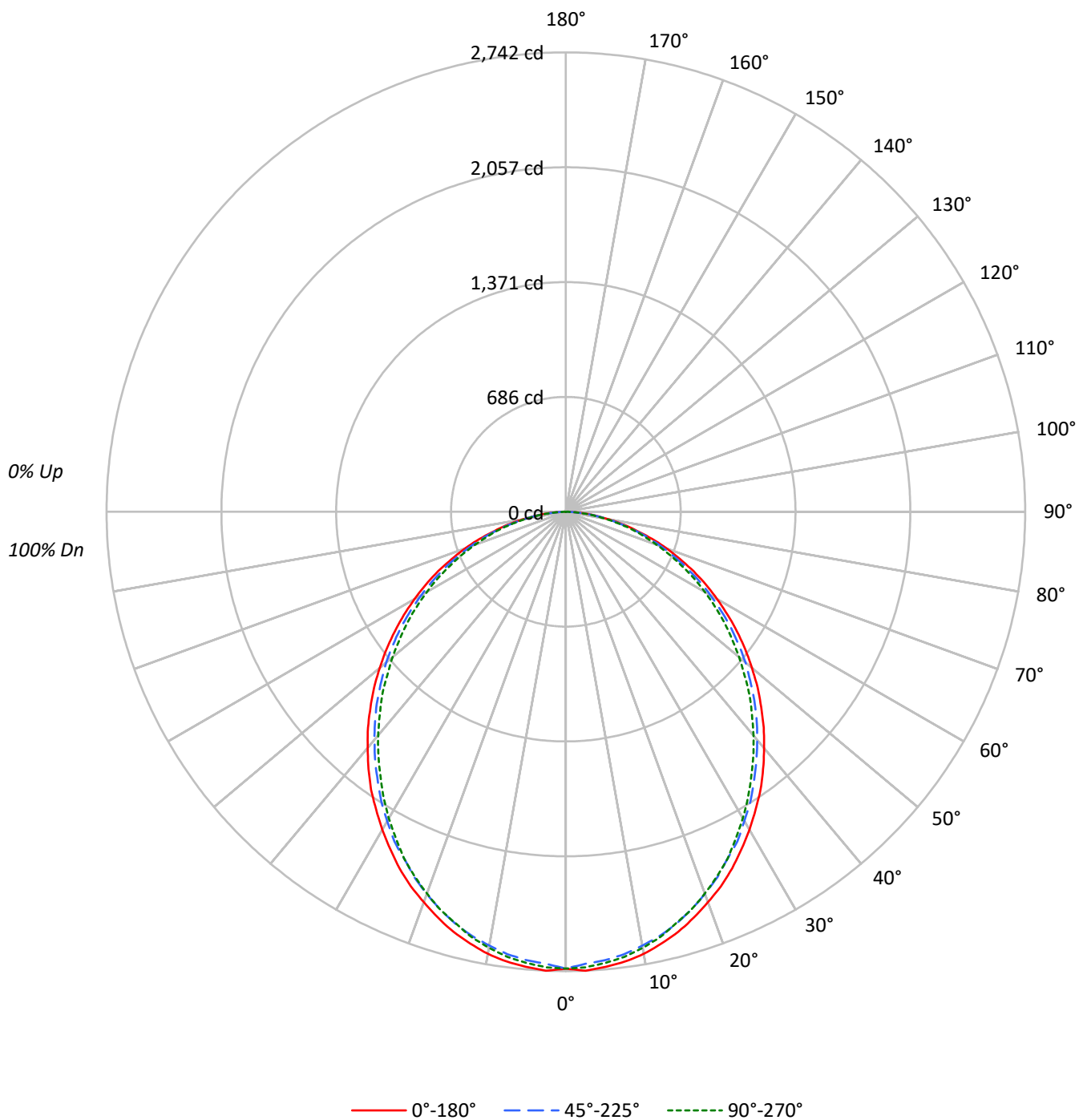
Lumens per Lamp: N/A
Luminaire Lumens: 6936.9 lumens
Efficiency: N/A
Efficacy: 96.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 71.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931501

CATALOG NUMBER: DFN2DS-TR4F0-070DS840-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931501

CATALOG NUMBER: DFN2DS-TR4F0-070DS840-FLL

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°	2166	2166	2166
5°	2174	2143	2156
10°	2162	2121	2132
15°	2135	2094	2092
20°	2097	2052	2050
25°	2059	2002	2002
30°	2011	1955	1938
35°	1965	1899	1871
40°	1909	1843	1808
45°	1853	1788	1744
50°	1792	1730	1669
55°	1729	1663	1602
60°	1658	1583	1525
65°	1582	1503	1434
70°	1486	1406	1340
75°	1351	1295	1264
80°	1200	1163	1103
85°	979	933	837

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1853 cd/sqm

TEST NUMBER: P931501

CATALOG NUMBER: DFN2DS-TR4F0-070DS840-FLL

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	

TEST NUMBER: P931501

CATALOG NUMBER: DFN2DS-TR4F0-070DS840-FLL

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

TEST NUMBER: P931501

CATALOG NUMBER: DFN2DS-TR4F0-070DS840-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	13.97	15.58	14.33	15.89	16.21	13.52	15.13	13.89	15.45	15.76
	3H	15.72	17.17	16.09	17.50	17.86	15.23	16.68	15.60	17.01	17.37
	4H	16.36	17.73	16.76	18.08	18.46	15.87	17.24	16.27	17.59	17.96
	6H	16.83	18.10	17.24	18.47	18.86	16.33	17.60	16.74	17.97	18.36
	8H	16.98	18.19	17.40	18.58	18.98	16.47	17.68	16.90	18.07	18.47
	12H	17.07	18.23	17.50	18.61	19.04	16.55	17.71	16.98	18.10	18.53
4H	2H	14.53	15.90	14.93	16.25	16.62	14.18	15.54	14.57	15.89	16.27
	3H	16.50	17.65	16.91	18.05	18.45	16.10	17.24	16.51	17.64	18.04
	4H	17.28	18.32	17.71	18.73	19.17	16.86	17.89	17.29	18.31	18.74
	6H	17.88	18.78	18.33	19.22	19.68	17.44	18.35	17.90	18.79	19.25
	8H	18.07	18.91	18.53	19.35	19.82	17.63	18.47	18.09	18.92	19.38
	12H	18.20	18.96	18.68	19.43	19.90	17.75	18.51	18.23	18.98	19.45
8H	4H	17.55	18.40	18.01	18.84	19.31	17.18	18.03	17.64	18.47	18.93
	6H	18.27	18.97	18.76	19.46	19.93	17.89	18.59	18.38	19.08	19.55
	8H	18.53	19.16	19.04	19.66	20.15	18.14	18.77	18.65	19.27	19.76
	12H	18.73	19.28	19.23	19.78	20.34	18.31	18.87	18.82	19.36	19.92
12H	4H	17.58	18.34	18.06	18.81	19.28	17.21	17.97	17.69	18.45	18.92
	6H	18.31	18.94	18.82	19.45	19.94	17.94	18.58	18.45	19.08	19.57
	8H	18.63	19.18	19.13	19.68	20.24	18.25	18.81	18.76	19.30	19.86