

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: P931513

Luminaire Tested: DFN2DS-TR4F0-070DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931513
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-TR4F0-070DS950-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

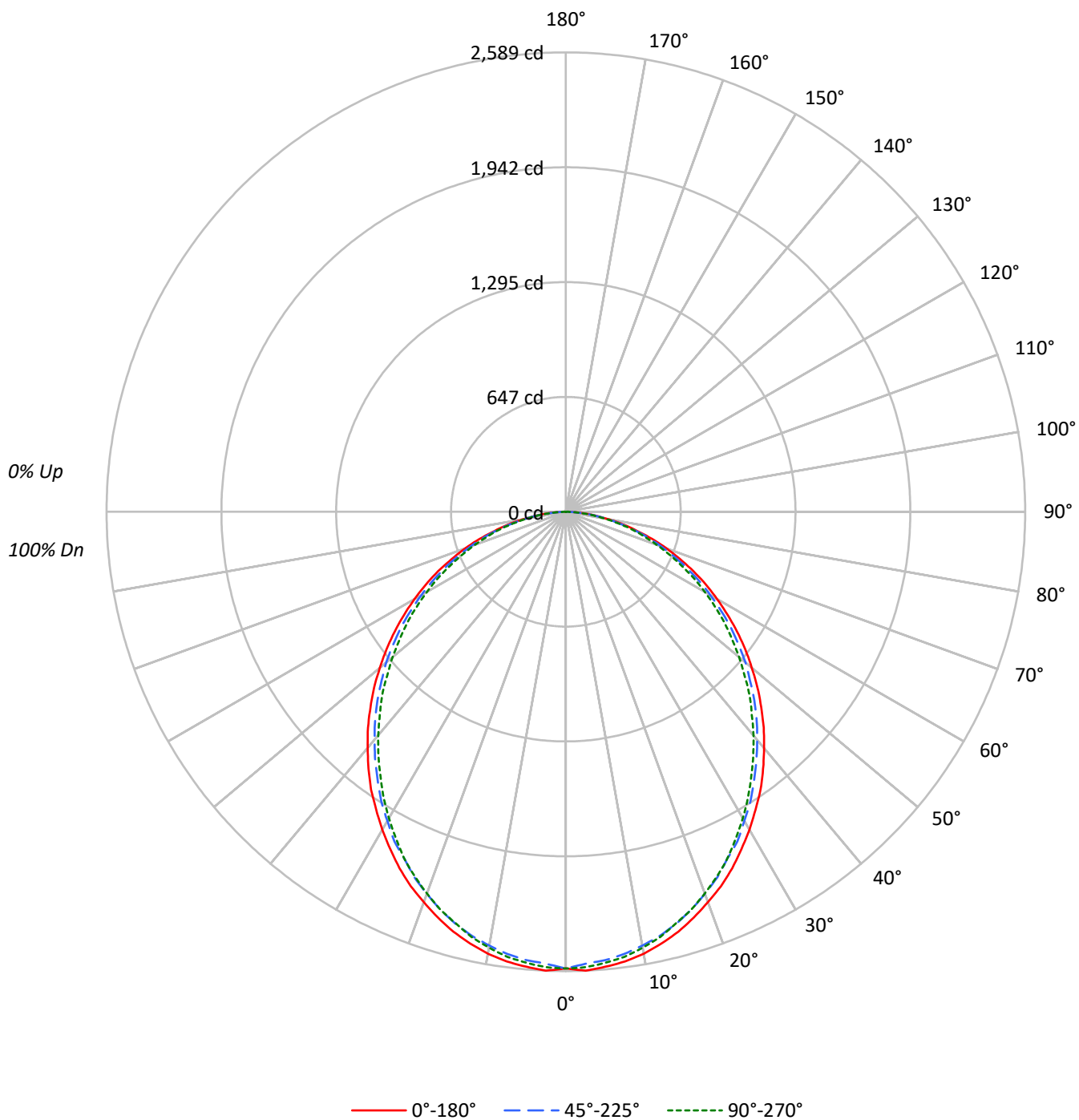
Lumens per Lamp: N/A
Luminaire Lumens: 6548.9 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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: P931513

CATALOG NUMBER: DFN2DS-TR4F0-070DS950-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
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°	2045	2045	2045
5°	2053	2023	2035
10°	2041	2003	2013
15°	2015	1977	1975
20°	1979	1938	1936
25°	1944	1890	1890
30°	1898	1846	1830
35°	1855	1793	1767
40°	1802	1740	1707
45°	1749	1688	1646
50°	1691	1633	1575
55°	1632	1570	1512
60°	1565	1495	1440
65°	1494	1419	1354
70°	1403	1328	1265
75°	1276	1223	1193
80°	1133	1098	1042
85°	924	881	790

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1749 cd/sqm

TEST NUMBER: P931513

CATALOG NUMBER: DFN2DS-TR4F0-070DS950-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.3	3.7
10°-20°	681.6	10.4
20°-30°	1001.7	15.3
30°-40°	1163.4	17.8
40°-50°	1162.0	17.7
50°-60°	1013.2	15.5
60°-70°	749.0	11.4
70°-80°	423.8	6.5
80°-90°	111.9	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°	1925.6	29.4
0°-40°	3089.0	47.2
0°-60°	5264.2	80.4
0°-90°	6548.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6548.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2574	2574	2574	2574	2574	
5°	2574	2564	2537	2557	2552	244
15°	2450	2436	2403	2413	2401	690
25°	2218	2198	2156	2161	2156	1020
35°	1913	1889	1849	1834	1822	1195
45°	1557	1540	1502	1475	1465	1202
55°	1178	1163	1134	1104	1092	1053
65°	795	780	755	733	720	786
75°	416	411	398	384	389	444
85°	101	99	97	89	87	119
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-TR4F0-070DS950-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2573.9	2573.9	2573.9	2573.9	2573.9
2.5°	2588.9	2576.5	2549.2	2573.9	2569.2
5°	2573.9	2564.3	2536.9	2556.6	2551.9
7.5°	2556.6	2541.9	2514.6	2534.6	2529.6
10°	2529.6	2512.2	2482.5	2502.3	2494.9
12.5°	2492.2	2477.6	2447.9	2460.2	2455.2
15°	2450.3	2435.5	2403.2	2413.2	2400.9
17.5°	2398.2	2383.6	2351.3	2363.6	2351.3
20°	2341.2	2326.6	2291.9	2299.3	2289.5
22.5°	2284.5	2262.2	2229.9	2229.9	2224.9
25°	2217.6	2197.9	2155.9	2160.6	2155.9
27.5°	2143.3	2126.0	2093.9	2086.6	2074.2
30°	2069.3	2049.2	2012.3	2004.9	1994.9
32.5°	1989.9	1975.2	1935.5	1920.6	1910.6
35°	1913.2	1888.6	1848.9	1834.0	1821.6
37.5°	1826.6	1804.3	1764.6	1747.3	1734.9
40°	1737.6	1717.6	1677.9	1655.9	1645.9
42.5°	1650.9	1631.0	1591.6	1566.6	1551.9
45°	1556.9	1539.6	1502.3	1475.2	1465.2
47.5°	1465.2	1447.9	1408.2	1380.9	1366.3
50°	1368.6	1356.3	1321.6	1287.0	1274.6
52.5°	1274.6	1257.3	1225.3	1198.0	1180.6
55°	1178.2	1163.3	1133.6	1103.9	1091.6
57.5°	1081.6	1069.3	1036.9	1007.3	997.4
60°	985.0	975.2	940.7	913.3	906.0
62.5°	890.9	873.7	849.0	824.3	814.3
65°	794.7	779.6	755.0	732.7	720.3
67.5°	695.6	683.0	660.9	643.6	633.6
70°	603.9	594.0	571.6	554.3	544.6
72.5°	509.9	500.0	487.6	470.3	463.0
75°	415.7	411.0	398.3	383.7	388.7
77.5°	331.7	321.7	316.7	309.3	302.0
80°	247.6	245.0	240.0	232.7	227.7
82.5°	168.3	168.3	165.9	156.0	156.0
85°	101.4	99.0	96.7	89.0	86.7
87.5°	44.6	39.7	34.7	27.3	24.7
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	13.77	15.38	14.13	15.69	16.01	13.32	14.93	13.69	15.25	15.56
	3H	15.52	16.97	15.89	17.30	17.66	15.03	16.48	15.40	16.81	17.17
	4H	16.16	17.53	16.56	17.88	18.26	15.67	17.04	16.07	17.39	17.76
	6H	16.63	17.90	17.04	18.27	18.66	16.13	17.40	16.54	17.77	18.16
	8H	16.78	17.99	17.20	18.38	18.78	16.27	17.48	16.70	17.87	18.27
	12H	16.87	18.03	17.30	18.41	18.84	16.35	17.51	16.78	17.90	18.33
4H	2H	14.33	15.70	14.73	16.05	16.42	13.98	15.34	14.37	15.69	16.07
	3H	16.30	17.45	16.71	17.85	18.25	15.90	17.04	16.31	17.44	17.84
	4H	17.08	18.12	17.51	18.53	18.97	16.66	17.69	17.09	18.11	18.54
	6H	17.68	18.58	18.13	19.02	19.48	17.24	18.15	17.70	18.59	19.05
	8H	17.87	18.71	18.33	19.15	19.62	17.43	18.27	17.89	18.72	19.18
	12H	18.00	18.76	18.48	19.23	19.70	17.55	18.31	18.03	18.78	19.25
8H	4H	17.35	18.20	17.81	18.64	19.11	16.98	17.83	17.44	18.27	18.73
	6H	18.07	18.77	18.56	19.26	19.73	17.69	18.39	18.18	18.88	19.35
	8H	18.33	18.96	18.84	19.46	19.95	17.94	18.57	18.45	19.07	19.56
	12H	18.53	19.08	19.03	19.57	20.14	18.11	18.67	18.62	19.16	19.72
12H	4H	17.38	18.14	17.86	18.61	19.08	17.01	17.77	17.49	18.25	18.72
	6H	18.11	18.74	18.62	19.25	19.74	17.74	18.38	18.25	18.88	19.37
	8H	18.43	18.98	18.93	19.48	20.04	18.05	18.61	18.56	19.10	19.66