

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: P931541

Luminaire Tested: DFN2DS-TR4F0-090DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931541
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-TR4F0-090DS927-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

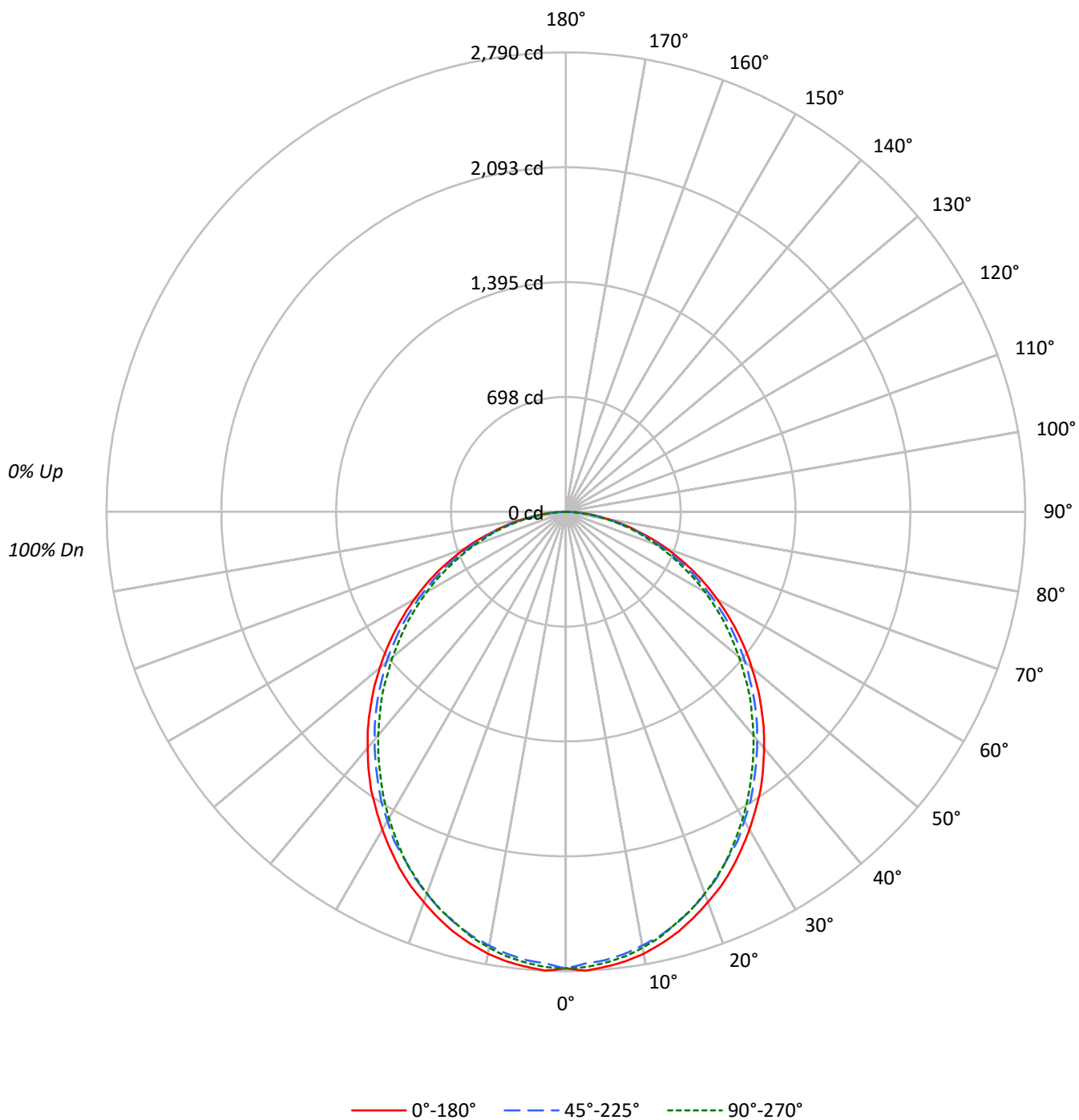
Lumens per Lamp: N/A
Luminaire Lumens: 7056.8 lumens
Efficiency: N/A
Efficacy: 75.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 93.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931541

CATALOG NUMBER: DFN2DS-TR4F0-090DS927-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°	2203	2203	2203
5°	2212	2180	2193
10°	2199	2158	2169
15°	2172	2130	2128
20°	2133	2088	2086
25°	2095	2036	2036
30°	2045	1989	1972
35°	1999	1932	1904
40°	1942	1875	1839
45°	1885	1819	1774
50°	1823	1760	1698
55°	1759	1692	1629
60°	1686	1610	1551
65°	1609	1529	1459
70°	1512	1431	1363
75°	1375	1318	1285
80°	1221	1183	1123
85°	995	949	851

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1885 cd/sqm

TEST NUMBER: P931541

CATALOG NUMBER: DFN2DS-TR4F0-090DS927-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.0	3.7
10°-20°	734.5	10.4
20°-30°	1079.4	15.3
30°-40°	1253.7	17.8
40°-50°	1252.1	17.7
50°-60°	1091.8	15.5
60°-70°	807.1	11.4
70°-80°	456.6	6.5
80°-90°	120.5	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°	2074.9	29.4
0°-40°	3328.6	47.2
0°-60°	5672.5	80.4
0°-90°	7056.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7056.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2774	2774	2774	2774	2774	
5°	2774	2763	2734	2755	2750	263
15°	2640	2624	2590	2600	2587	744
25°	2390	2368	2323	2328	2323	1100
35°	2062	2035	1992	1976	1963	1287
45°	1678	1659	1619	1590	1579	1295
55°	1270	1254	1222	1190	1176	1135
65°	856	840	814	790	776	847
75°	448	443	429	413	419	478
85°	109	107	104	96	93	128
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-TR4F0-090DS927-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2773.5	2773.5	2773.5	2773.5	2773.5
2.5°	2789.7	2776.4	2747.0	2773.5	2768.4
5°	2773.5	2763.1	2733.7	2754.9	2749.7
7.5°	2754.9	2739.1	2709.6	2731.1	2725.7
10°	2725.7	2707.1	2675.1	2696.3	2688.4
12.5°	2685.5	2669.7	2637.8	2651.0	2645.7
15°	2640.3	2624.5	2589.6	2600.4	2587.1
17.5°	2584.2	2568.4	2533.6	2546.9	2533.6
20°	2522.8	2507.0	2469.6	2477.5	2467.1
22.5°	2461.7	2437.7	2402.8	2402.8	2397.5
25°	2389.5	2368.3	2323.1	2328.2	2323.1
27.5°	2309.5	2290.8	2256.3	2248.4	2235.1
30°	2229.7	2208.2	2168.3	2160.3	2149.6
32.5°	2144.3	2128.4	2085.7	2069.6	2058.8
35°	2061.7	2035.0	1992.3	1976.2	1962.9
37.5°	1968.3	1944.2	1901.4	1882.8	1869.5
40°	1872.3	1850.8	1808.1	1784.3	1773.6
42.5°	1778.9	1757.4	1715.0	1688.1	1672.3
45°	1677.6	1659.0	1618.8	1589.6	1578.9
47.5°	1578.9	1560.2	1517.5	1488.1	1472.2
50°	1474.8	1461.5	1424.1	1386.8	1373.5
52.5°	1373.5	1354.8	1320.3	1290.9	1272.2
55°	1269.7	1253.5	1221.5	1189.6	1176.3
57.5°	1165.5	1152.2	1117.4	1085.4	1074.7
60°	1061.4	1050.9	1013.5	984.1	976.2
62.5°	960.1	941.4	914.8	888.2	877.5
65°	856.2	840.1	813.5	789.5	776.2
67.5°	749.5	736.0	712.2	693.6	682.8
70°	650.8	640.0	616.0	597.3	586.9
72.5°	549.5	538.7	525.4	506.8	498.9
75°	448.0	442.8	429.3	413.4	418.8
77.5°	357.4	346.7	341.3	333.4	325.4
80°	266.8	264.0	258.6	250.7	245.4
82.5°	181.4	181.4	178.8	168.1	168.1
85°	109.2	106.7	104.1	95.9	93.4
87.5°	48.1	42.7	37.4	29.5	26.6
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	14.03	15.64	14.39	15.95	16.27	13.58	15.19	13.95	15.51	15.82
	3H	15.78	17.23	16.15	17.56	17.92	15.29	16.74	15.66	17.07	17.43
	4H	16.42	17.79	16.82	18.14	18.52	15.93	17.30	16.33	17.65	18.02
	6H	16.89	18.16	17.30	18.53	18.92	16.39	17.66	16.80	18.02	18.42
	8H	17.04	18.25	17.46	18.64	19.03	16.53	17.74	16.96	18.13	18.53
	12H	17.13	18.29	17.56	18.67	19.10	16.61	17.77	17.04	18.16	18.58
4H	2H	14.59	15.96	14.99	16.30	16.68	14.23	15.60	14.63	15.95	16.33
	3H	16.56	17.71	16.97	18.11	18.51	16.16	17.30	16.57	17.70	18.10
	4H	17.34	18.38	17.77	18.79	19.23	16.92	17.95	17.35	18.37	18.80
	6H	17.94	18.84	18.39	19.28	19.74	17.50	18.41	17.96	18.85	19.31
	8H	18.13	18.97	18.59	19.41	19.88	17.69	18.53	18.15	18.98	19.44
	12H	18.26	19.02	18.74	19.49	19.96	17.81	18.57	18.29	19.04	19.51
8H	4H	17.61	18.46	18.07	18.90	19.37	17.24	18.09	17.70	18.53	18.99
	6H	18.33	19.03	18.82	19.52	19.99	17.95	18.65	18.44	19.14	19.61
	8H	18.59	19.22	19.10	19.72	20.21	18.19	18.83	18.70	19.33	19.82
	12H	18.79	19.34	19.29	19.83	20.40	18.37	18.93	18.88	19.42	19.98
12H	4H	17.64	18.40	18.12	18.87	19.34	17.27	18.03	17.75	18.51	18.98
	6H	18.37	19.00	18.88	19.51	20.00	18.00	18.64	18.51	19.14	19.63
	8H	18.69	19.24	19.19	19.73	20.30	18.31	18.87	18.82	19.36	19.92