

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: P929971

Luminaire Tested: DFN2DS-4P4F0-050DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929971
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-4P4F0-050DS840-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

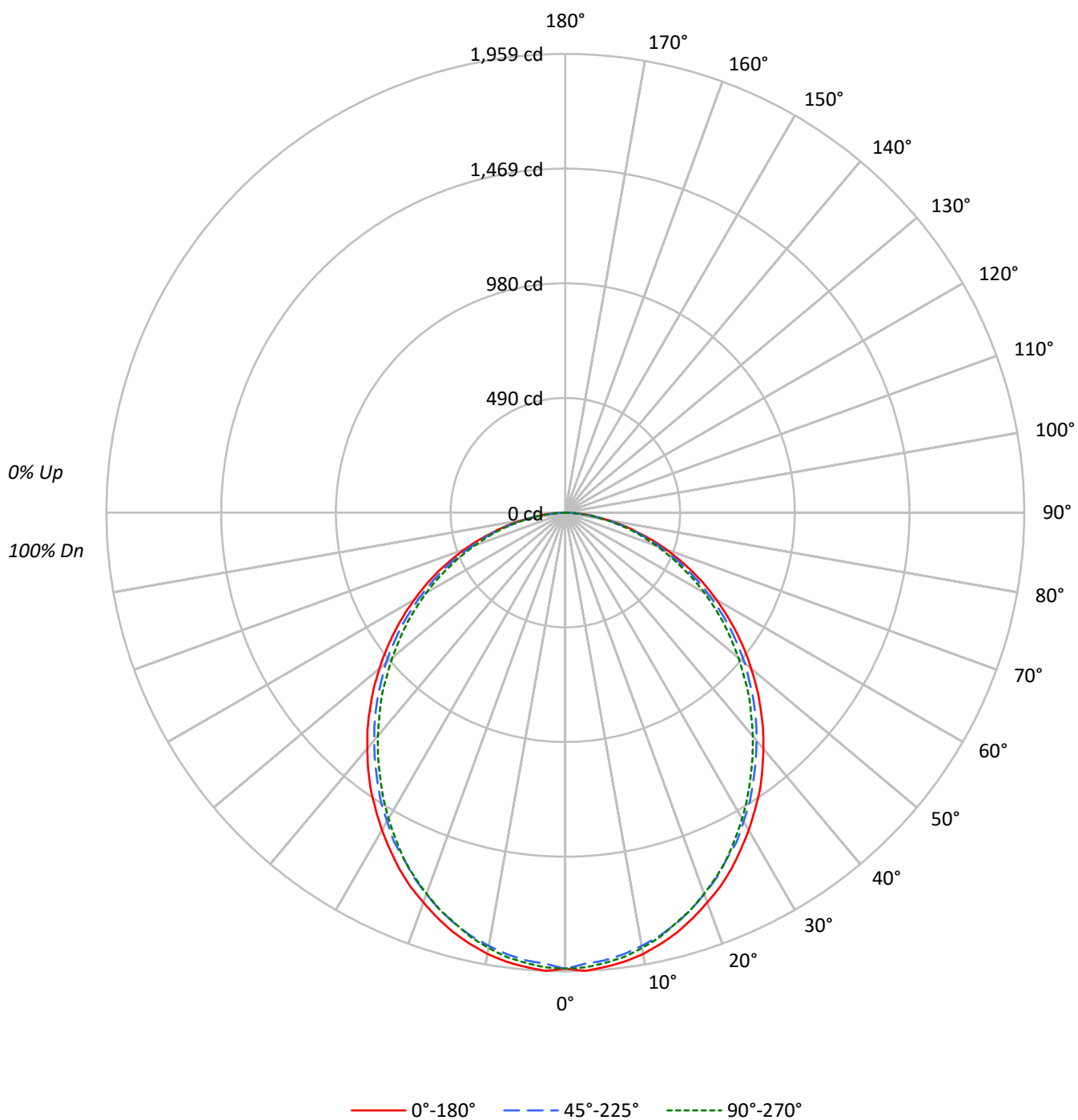
Lumens per Lamp: N/A
Luminaire Lumens: 4955.0 lumens
Efficiency: N/A
Efficacy: 97.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 50.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929971

CATALOG NUMBER: DFN2DS-4P4F0-050DS840-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°	1263	1263	1263
5°	1268	1250	1257
10°	1261	1237	1244
15°	1245	1221	1220
20°	1223	1197	1196
25°	1201	1168	1168
30°	1173	1141	1131
35°	1146	1108	1092
40°	1113	1075	1055
45°	1081	1043	1017
50°	1045	1009	973
55°	1008	970	934
60°	967	923	889
65°	923	877	836
70°	867	820	782
75°	788	755	737
80°	700	678	644
85°	571	544	488

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1081 cd/sqm

TEST NUMBER: P929971

CATALOG NUMBER: DFN2DS-4P4F0-050DS840-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.3	3.7
10°-20°	515.7	10.4
20°-30°	757.9	15.3
30°-40°	880.3	17.8
40°-50°	879.2	17.7
50°-60°	766.6	15.5
60°-70°	566.7	11.4
70°-80°	320.6	6.5
80°-90°	84.6	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°	1456.9	29.4
0°-40°	2337.2	47.2
0°-60°	3983.0	80.4
0°-90°	4955.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4955.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1947	1947	1947	1947	1947	
5°	1947	1940	1919	1934	1931	185
15°	1854	1843	1818	1826	1816	522
25°	1678	1663	1631	1635	1631	772
35°	1448	1429	1399	1388	1378	904
45°	1178	1165	1137	1116	1109	909
55°	892	880	858	835	826	797
65°	601	590	571	554	545	594
75°	314	311	301	290	294	336
85°	77	75	73	67	66	90
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-4P4F0-050DS840-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1947.4	1947.4	1947.4	1947.4	1947.4
2.5°	1958.8	1949.4	1928.8	1947.4	1943.9
5°	1947.4	1940.1	1919.4	1934.3	1930.8
7.5°	1934.3	1923.2	1902.6	1917.7	1913.9
10°	1913.9	1900.8	1878.4	1893.2	1887.7
12.5°	1885.7	1874.6	1852.2	1861.5	1857.7
15°	1853.9	1842.7	1818.3	1825.9	1816.5
17.5°	1814.5	1803.4	1779.0	1788.3	1779.0
20°	1771.5	1760.4	1734.1	1739.6	1732.3
22.5°	1728.5	1711.6	1687.2	1687.2	1683.4
25°	1677.9	1663.0	1631.1	1634.7	1631.1
27.5°	1621.6	1608.5	1584.3	1578.7	1569.4
30°	1565.6	1550.5	1522.5	1516.9	1509.4
32.5°	1505.6	1494.5	1464.5	1453.2	1445.6
35°	1447.5	1428.9	1398.9	1387.6	1378.3
37.5°	1382.0	1365.2	1335.1	1322.0	1312.7
40°	1314.7	1299.6	1269.6	1252.9	1245.3
42.5°	1249.1	1234.0	1204.2	1185.3	1174.2
45°	1178.0	1164.9	1136.6	1116.2	1108.6
47.5°	1108.6	1095.5	1065.6	1044.8	1033.7
50°	1035.5	1026.2	1000.0	973.8	964.4
52.5°	964.4	951.3	927.0	906.4	893.3
55°	891.5	880.2	857.7	835.2	825.9
57.5°	818.3	809.0	784.6	762.2	754.6
60°	745.2	737.9	711.7	691.0	685.5
62.5°	674.2	661.1	642.3	623.6	616.1
65°	601.2	589.9	571.2	554.4	544.9
67.5°	526.3	516.8	500.1	487.0	479.4
70°	457.0	449.4	432.5	419.4	412.1
72.5°	385.9	378.3	369.0	355.9	350.2
75°	314.5	310.9	301.4	290.3	294.1
77.5°	251.0	243.3	239.6	234.0	228.5
80°	187.4	185.4	181.6	176.1	172.3
82.5°	127.3	127.3	125.5	118.0	118.0
85°	76.7	74.9	73.1	67.4	65.6
87.5°	33.7	30.0	26.2	20.6	18.7
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	12.09	13.71	12.46	14.02	14.33	11.65	13.26	12.02	13.58	13.89
	3H	13.84	15.30	14.22	15.63	15.99	13.35	14.81	13.73	15.14	15.50
	4H	14.49	15.86	14.89	16.21	16.58	14.00	15.37	14.40	15.71	16.09
	6H	14.96	16.23	15.37	16.59	16.98	14.46	15.73	14.87	16.09	16.48
	8H	15.10	16.31	15.53	16.70	17.10	14.60	15.81	15.03	16.20	16.60
	12H	15.19	16.35	15.62	16.74	17.16	14.68	15.84	15.11	16.22	16.65
4H	2H	12.66	14.02	13.05	14.37	14.75	12.30	13.67	12.70	14.02	14.40
	3H	14.63	15.78	15.04	16.17	16.57	14.22	15.37	14.63	15.77	16.17
	4H	15.41	16.44	15.84	16.86	17.29	14.98	16.02	15.41	16.43	16.87
	6H	16.00	16.91	16.46	17.35	17.81	15.57	16.48	16.03	16.92	17.37
	8H	16.19	17.04	16.65	17.48	17.95	15.76	16.60	16.22	17.04	17.51
	12H	16.32	17.08	16.80	17.56	18.03	15.87	16.63	16.35	17.11	17.58
8H	4H	15.68	16.53	16.14	16.97	17.43	15.31	16.15	15.77	16.60	17.06
	6H	16.39	17.10	16.89	17.59	18.06	16.01	16.72	16.51	17.20	17.68
	8H	16.65	17.28	17.16	17.79	18.28	16.26	16.89	16.77	17.40	17.89
	12H	16.85	17.41	17.36	17.90	18.46	16.44	17.00	16.95	17.49	18.05
12H	4H	15.71	16.47	16.19	16.94	17.41	15.34	16.10	15.82	16.58	17.05
	6H	16.44	17.07	16.95	17.58	18.06	16.07	16.70	16.58	17.21	17.70
	8H	16.75	17.31	17.26	17.80	18.36	16.38	16.93	16.88	17.42	17.99