

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: P929901

Luminaire Tested: DFN2DS-4P3F0-050DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929901
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-4P3F0-050DS850-FLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

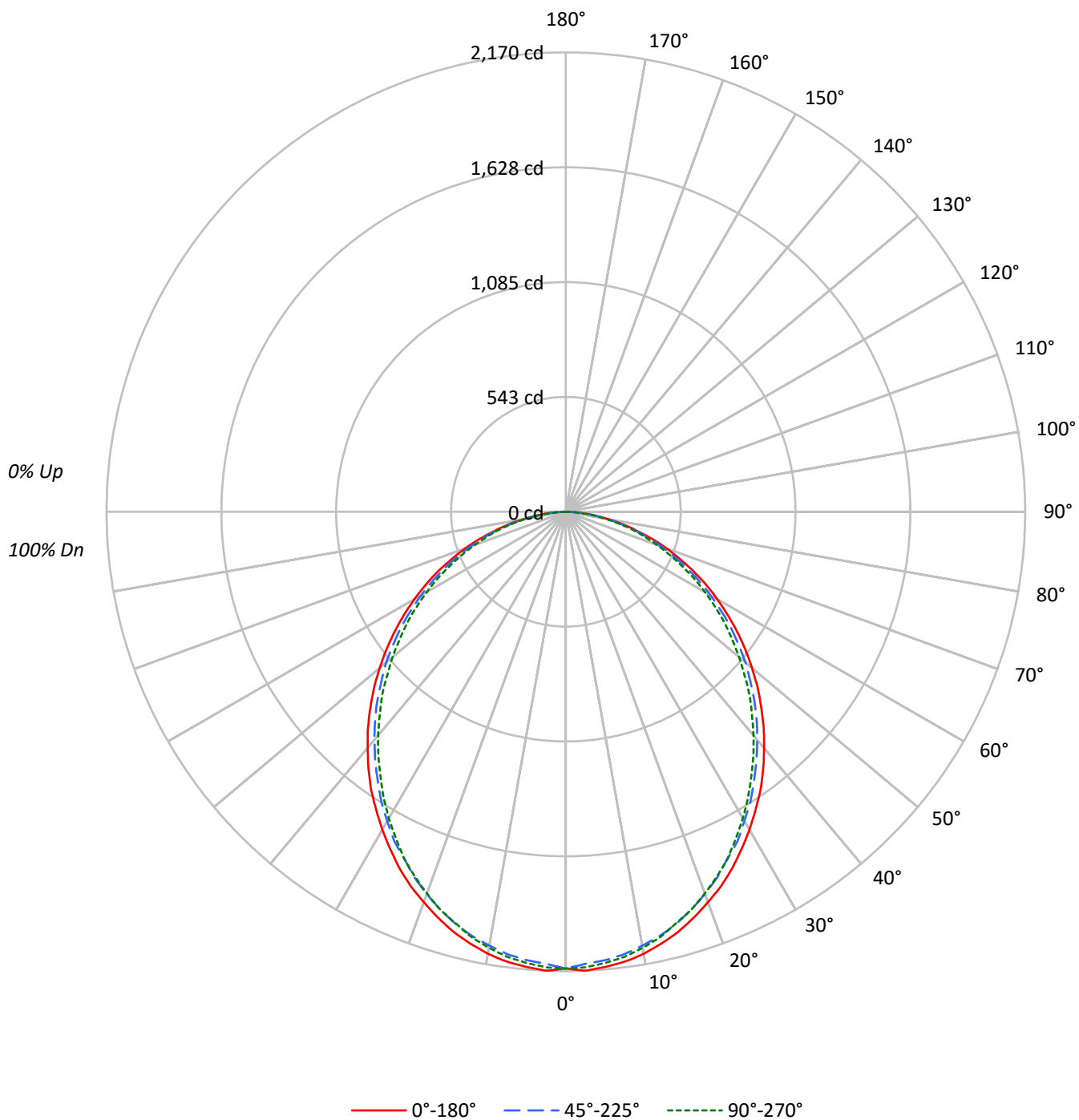
Lumens per Lamp: N/A
Luminaire Lumens: 5489.6 lumens
Efficiency: N/A
Efficacy: 106.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

Input Watts (W): 51.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
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: P929901

CATALOG NUMBER: DFN2DS-4P3F0-050DS850-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°	2459	2459	2459
5°	2468	2433	2447
10°	2454	2408	2420
15°	2423	2377	2374
20°	2380	2330	2327
25°	2337	2272	2272
30°	2282	2220	2201
35°	2231	2156	2124
40°	2167	2092	2052
45°	2103	2030	1979
50°	2034	1964	1894
55°	1962	1888	1818
60°	1882	1797	1731
65°	1796	1706	1628
70°	1687	1597	1521
75°	1534	1470	1435
80°	1362	1320	1253
85°	1110	1059	949

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2103 cd/sqm

TEST NUMBER: P929901

CATALOG NUMBER: DFN2DS-4P3F0-050DS850-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.1	3.7
10°-20°	571.4	10.4
20°-30°	839.7	15.3
30°-40°	975.2	17.8
40°-50°	974.0	17.7
50°-60°	849.3	15.5
60°-70°	627.9	11.4
70°-80°	355.2	6.5
80°-90°	93.8	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°	1614.1	29.4
0°-40°	2589.4	47.2
0°-60°	4412.7	80.4
0°-90°	5489.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5489.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2158	2158	2158	2158	2158	
5°	2158	2150	2126	2143	2139	205
15°	2054	2042	2014	2023	2012	578
25°	1859	1842	1807	1811	1807	855
35°	1604	1583	1550	1537	1527	1001
45°	1305	1290	1259	1237	1228	1007
55°	988	975	950	925	915	883
65°	666	654	633	614	604	659
75°	348	344	334	322	326	372
85°	85	83	81	75	73	100
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-4P3F0-050DS850-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2157.6	2157.6	2157.6	2157.6	2157.6
2.5°	2170.1	2159.8	2136.9	2157.6	2153.7
5°	2157.6	2149.5	2126.5	2143.0	2139.2
7.5°	2143.0	2130.7	2107.9	2124.6	2120.4
10°	2120.4	2105.9	2081.0	2097.5	2091.4
12.5°	2089.1	2076.8	2052.0	2062.3	2058.1
15°	2053.9	2041.6	2014.5	2022.9	2012.5
17.5°	2010.3	1998.0	1970.9	1981.2	1970.9
20°	1962.6	1950.3	1921.2	1927.3	1919.2
22.5°	1915.0	1896.3	1869.2	1869.2	1865.0
25°	1858.9	1842.4	1807.1	1811.1	1807.1
27.5°	1796.6	1782.1	1755.2	1749.0	1738.7
30°	1734.5	1717.8	1686.8	1680.6	1672.3
32.5°	1668.0	1655.7	1622.5	1609.9	1601.6
35°	1603.7	1583.1	1549.8	1537.3	1527.0
37.5°	1531.1	1512.5	1479.2	1464.7	1454.3
40°	1456.6	1439.8	1406.5	1388.0	1379.7
42.5°	1383.9	1367.2	1334.1	1313.2	1300.9
45°	1305.1	1290.5	1259.3	1236.6	1228.2
47.5°	1228.2	1213.7	1180.5	1157.6	1145.3
50°	1147.3	1136.9	1107.9	1078.8	1068.4
52.5°	1068.4	1053.9	1027.0	1004.2	989.7
55°	987.7	975.1	950.2	925.3	915.0
57.5°	906.6	896.3	869.2	844.4	836.0
60°	825.7	817.6	788.5	765.5	759.4
62.5°	746.9	732.4	711.6	690.9	682.6
65°	666.1	653.5	632.8	614.2	603.7
67.5°	583.1	572.6	554.1	539.5	531.1
70°	506.3	497.9	479.2	464.7	456.6
72.5°	427.5	419.1	408.8	394.2	388.0
75°	348.4	344.5	333.9	321.6	325.8
77.5°	278.0	269.6	265.5	259.3	253.2
80°	207.6	205.4	201.2	195.1	190.9
82.5°	141.1	141.1	139.1	130.8	130.8
85°	84.9	83.0	81.0	74.6	72.6
87.5°	37.4	33.3	29.1	22.8	20.7
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	14.41	16.02	14.77	16.33	16.65	13.96	15.57	14.33	15.89	16.20
	3H	16.16	17.61	16.54	17.94	18.30	15.67	17.12	16.04	17.45	17.81
	4H	16.80	18.17	17.20	18.52	18.90	16.31	17.68	16.71	18.03	18.40
	6H	17.27	18.54	17.68	18.91	19.30	16.77	18.04	17.18	18.41	18.80
	8H	17.42	18.63	17.84	19.02	19.42	16.91	18.13	17.34	18.51	18.91
	12H	17.51	18.67	17.94	19.05	19.48	17.00	18.16	17.42	18.54	18.97
4H	2H	14.97	16.34	15.37	16.69	17.06	14.62	15.98	15.01	16.33	16.71
	3H	16.94	18.09	17.35	18.49	18.89	16.54	17.68	16.95	18.08	18.48
	4H	17.72	18.76	18.15	19.17	19.61	17.30	18.33	17.73	18.75	19.18
	6H	18.32	19.22	18.77	19.66	20.12	17.88	18.79	18.34	19.23	19.69
	8H	18.51	19.35	18.97	19.80	20.26	18.07	18.92	18.53	19.36	19.82
	12H	18.64	19.40	19.12	19.87	20.34	18.19	18.95	18.67	19.42	19.89
8H	4H	17.99	18.84	18.45	19.28	19.75	17.62	18.47	18.08	18.91	19.37
	6H	18.71	19.41	19.20	19.90	20.37	18.33	19.03	18.82	19.52	19.99
	8H	18.97	19.60	19.48	20.10	20.59	18.58	19.21	19.09	19.71	20.20
	12H	19.17	19.72	19.67	20.22	20.78	18.75	19.31	19.26	19.80	20.36
12H	4H	18.02	18.78	18.50	19.26	19.72	17.66	18.42	18.14	18.89	19.36
	6H	18.75	19.39	19.26	19.89	20.38	18.38	19.02	18.89	19.52	20.01
	8H	19.07	19.63	19.57	20.12	20.68	18.69	19.25	19.20	19.74	20.30