

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: P930037

Luminaire Tested: DFN2DS-4P4F0-080DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930037
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-4P4F0-080DS950-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

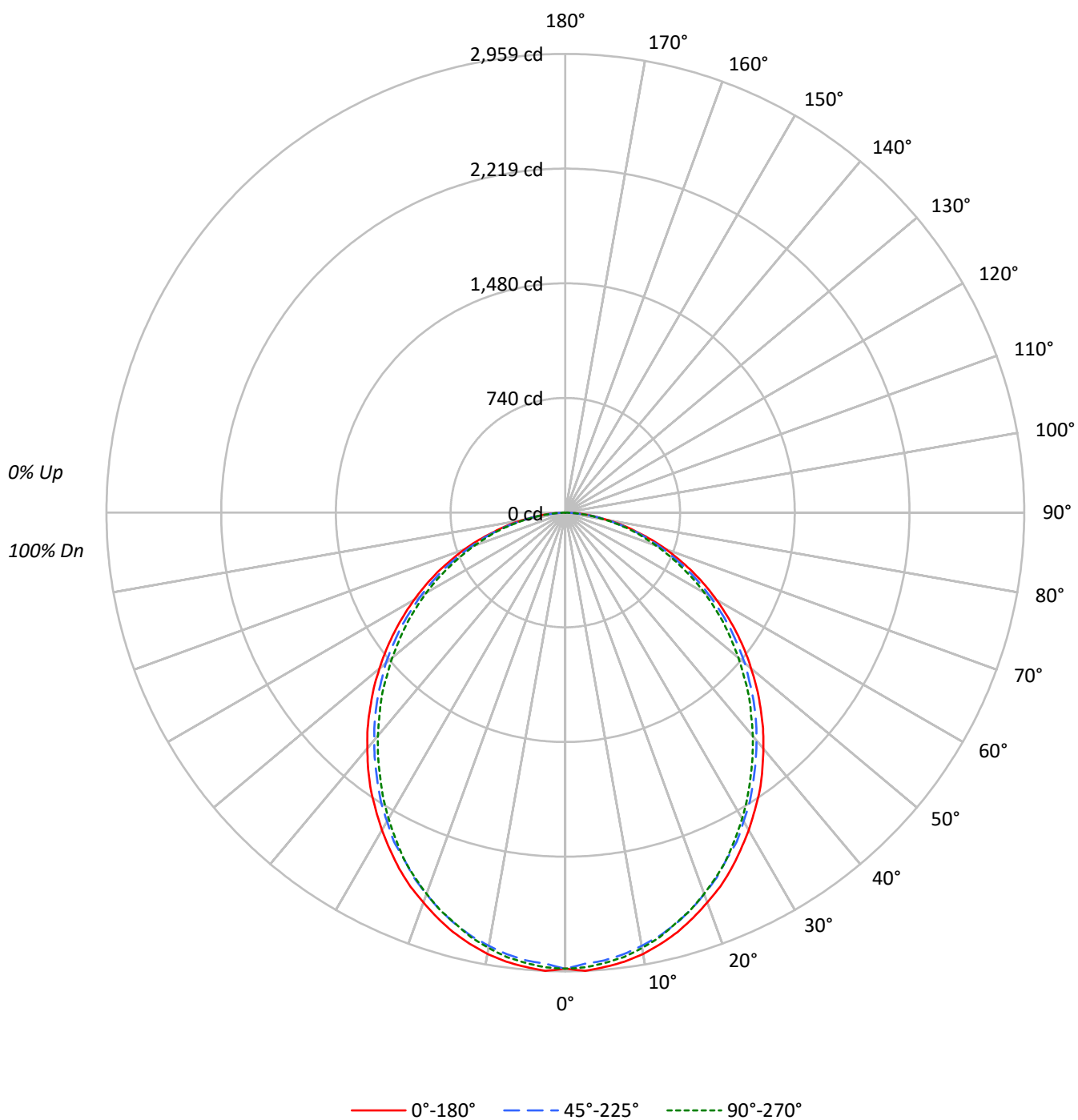
Lumens per Lamp: N/A
Luminaire Lumens: 7484.4 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 86.3
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: P930037

CATALOG NUMBER: DFN2DS-4P4F0-080DS950-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930037

CATALOG NUMBER: DFN2DS-4P4F0-080DS950-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°	1908	1908	1908
5°	1916	1888	1899
10°	1904	1869	1878
15°	1881	1845	1843
20°	1847	1808	1806
25°	1814	1764	1764
30°	1772	1723	1708
35°	1732	1673	1649
40°	1682	1624	1593
45°	1632	1575	1536
50°	1579	1524	1470
55°	1523	1465	1411
60°	1461	1395	1343
65°	1394	1324	1264
70°	1309	1239	1181
75°	1191	1141	1113
80°	1057	1025	972
85°	863	823	737

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1632 cd/sqm

TEST NUMBER: P930037

CATALOG NUMBER: DFN2DS-4P4F0-080DS950-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.9	3.7
10°-20°	779.0	10.4
20°-30°	1144.8	15.3
30°-40°	1329.6	17.8
40°-50°	1328.0	17.7
50°-60°	1158.0	15.5
60°-70°	856.0	11.4
70°-80°	484.3	6.5
80°-90°	127.8	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°	2200.7	29.4
0°-40°	3530.3	47.2
0°-60°	6016.3	80.4
0°-90°	7484.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7484.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2942	2942	2942	2942	2942	
5°	2942	2930	2899	2922	2916	279
15°	2800	2784	2746	2758	2744	789
25°	2534	2512	2464	2469	2464	1166
35°	2186	2158	2113	2096	2082	1365
45°	1779	1760	1717	1686	1675	1373
55°	1346	1329	1296	1262	1248	1204
65°	908	891	863	837	823	898
75°	475	470	455	438	444	507
85°	116	113	110	102	99	136
90°	0	0	0	0	0	

TEST NUMBER: P930037

CATALOG NUMBER: DFN2DS-4P4F0-080DS950-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2941.6	2941.6	2941.6	2941.6	2941.6
2.5°	2958.7	2944.6	2913.4	2941.6	2936.2
5°	2941.6	2930.5	2899.4	2921.8	2916.5
7.5°	2921.8	2905.0	2873.8	2896.6	2890.9
10°	2890.9	2871.1	2837.2	2859.7	2851.3
12.5°	2848.3	2831.5	2797.6	2811.7	2806.0
15°	2800.3	2783.5	2746.5	2758.0	2743.9
17.5°	2740.9	2724.1	2687.1	2701.3	2687.1
20°	2675.8	2658.9	2619.4	2627.8	2616.6
22.5°	2610.9	2585.4	2548.5	2548.5	2542.8
25°	2534.4	2511.9	2463.9	2469.3	2463.9
27.5°	2449.4	2429.7	2393.0	2384.6	2370.5
30°	2364.9	2342.0	2299.8	2291.3	2279.9
32.5°	2274.2	2257.4	2212.1	2195.0	2183.6
35°	2186.5	2158.4	2113.0	2095.9	2081.8
37.5°	2087.5	2062.0	2016.7	1996.9	1982.8
40°	1985.8	1963.0	1917.7	1892.5	1881.0
42.5°	1886.8	1863.9	1818.9	1790.4	1773.7
45°	1779.3	1759.5	1716.9	1686.0	1674.6
47.5°	1674.6	1654.8	1609.4	1578.2	1561.4
50°	1564.2	1550.1	1510.4	1470.8	1456.7
52.5°	1456.7	1436.9	1400.3	1369.1	1349.3
55°	1346.5	1329.4	1295.6	1261.7	1247.5
57.5°	1236.2	1222.1	1185.1	1151.2	1139.8
60°	1125.7	1114.6	1074.9	1043.8	1035.3
62.5°	1018.2	998.5	970.2	942.1	930.6
65°	908.1	891.0	862.8	837.3	823.2
67.5°	794.9	780.6	755.3	735.6	724.2
70°	690.2	678.8	653.4	633.5	622.4
72.5°	582.8	571.4	557.3	537.5	529.1
75°	475.1	469.7	455.3	438.5	444.2
77.5°	379.0	367.6	361.9	353.5	345.1
80°	283.0	280.0	274.3	265.9	260.2
82.5°	192.4	192.4	189.7	178.2	178.2
85°	115.9	113.1	110.5	101.8	99.0
87.5°	51.0	45.4	39.6	31.2	28.3
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930037

CATALOG NUMBER: DFN2DS-4P4F0-080DS950-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	13.53	15.14	13.89	15.45	15.77	13.08	14.69	13.45	15.01	15.32
	3H	15.28	16.73	15.65	17.06	17.42	14.79	16.24	15.16	16.57	16.93
	4H	15.92	17.29	16.32	17.64	18.02	15.43	16.80	15.83	17.15	17.52
	6H	16.39	17.66	16.80	18.03	18.42	15.89	17.16	16.30	17.53	17.92
	8H	16.54	17.75	16.96	18.14	18.54	16.03	17.24	16.46	17.63	18.03
	12H	16.63	17.79	17.06	18.17	18.60	16.11	17.27	16.54	17.66	18.08
4H	2H	14.09	15.46	14.49	15.81	16.18	13.74	15.10	14.13	15.45	15.83
	3H	16.06	17.21	16.47	17.61	18.01	15.66	16.80	16.07	17.20	17.60
	4H	16.84	17.88	17.27	18.29	18.73	16.42	17.45	16.85	17.87	18.30
	6H	17.44	18.34	17.89	18.78	19.24	17.00	17.91	17.46	18.35	18.81
	8H	17.63	18.47	18.09	18.91	19.38	17.19	18.03	17.65	18.48	18.94
	12H	17.76	18.52	18.24	18.99	19.46	17.31	18.07	17.79	18.54	19.01
8H	4H	17.11	17.96	17.57	18.40	18.87	16.74	17.59	17.20	18.03	18.49
	6H	17.83	18.53	18.32	19.02	19.49	17.45	18.15	17.94	18.64	19.11
	8H	18.09	18.72	18.60	19.22	19.71	17.69	18.33	18.20	18.83	19.32
	12H	18.29	18.84	18.79	19.34	19.90	17.87	18.43	18.38	18.92	19.48
12H	4H	17.14	17.90	17.62	18.38	18.84	16.77	17.53	17.25	18.01	18.48
	6H	17.87	18.50	18.38	19.01	19.50	17.50	18.14	18.01	18.64	19.13
	8H	18.19	18.74	18.69	19.24	19.80	17.81	18.37	18.32	18.86	19.42