

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: P929993

Luminaire Tested: DFN2DS-4P4F0-060DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929993
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-4P4F0-060DS927-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

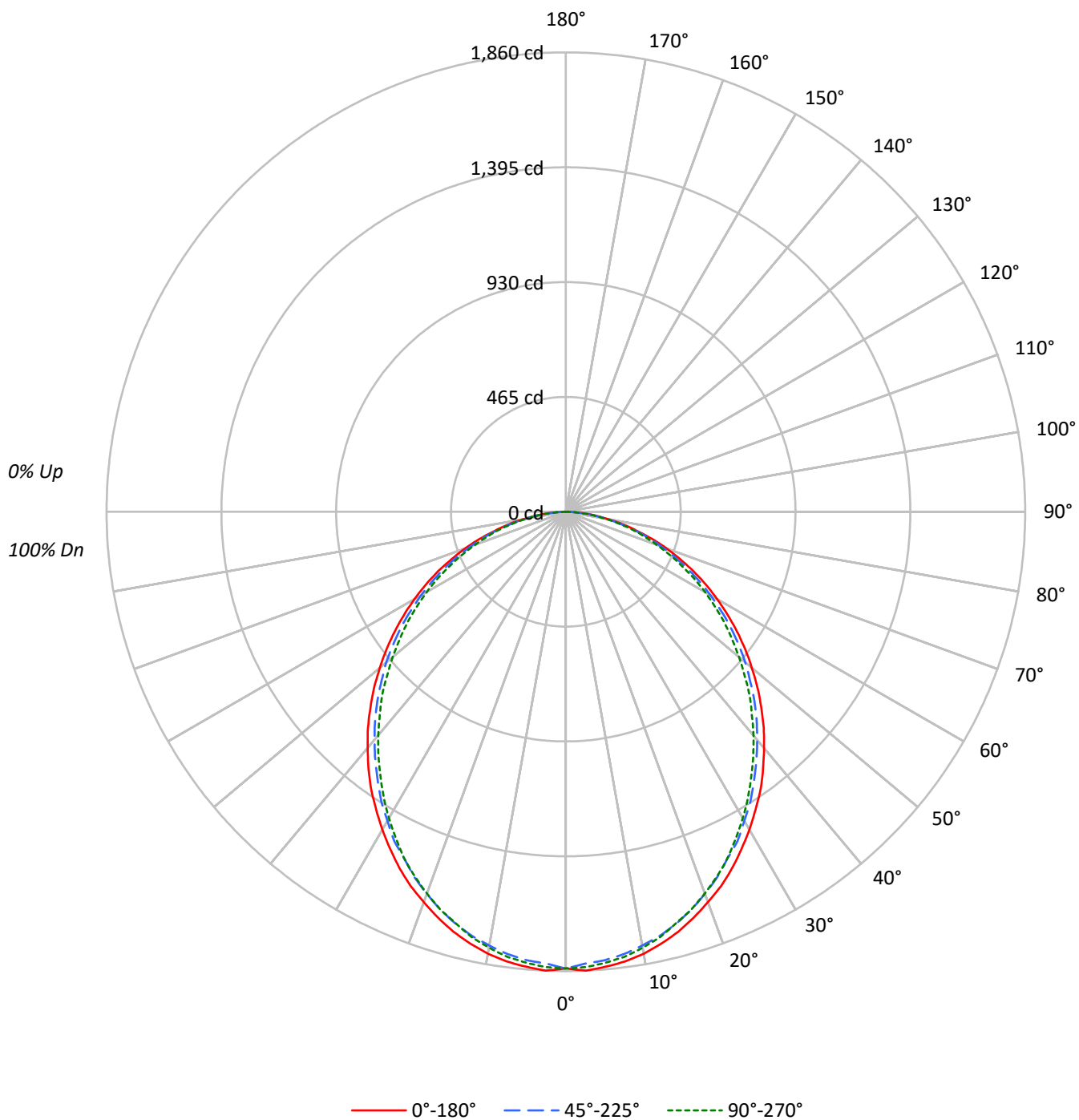
Lumens per Lamp: N/A
Luminaire Lumens: 4704.5 lumens
Efficiency: N/A
Efficacy: 75.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 62
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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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°	1200	1200	1200
5°	1204	1187	1194
10°	1197	1175	1181
15°	1182	1159	1158
20°	1161	1137	1135
25°	1140	1109	1109
30°	1114	1083	1073
35°	1088	1052	1036
40°	1057	1021	1001
45°	1026	990	966
50°	992	958	924
55°	957	921	887
60°	918	877	844
65°	876	833	794
70°	823	779	742
75°	748	717	700
80°	665	644	611
85°	542	517	464

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1026 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.0	3.7
10°-20°	489.7	10.4
20°-30°	719.6	15.3
30°-40°	835.8	17.8
40°-50°	834.7	17.7
50°-60°	727.9	15.5
60°-70°	538.1	11.4
70°-80°	304.4	6.5
80°-90°	80.3	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°	1383.3	29.4
0°-40°	2219.1	47.2
0°-60°	3781.7	80.4
0°-90°	4704.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4704.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1849	1849	1849	1849	1849	
5°	1849	1842	1822	1837	1833	176
15°	1760	1750	1726	1734	1725	496
25°	1593	1579	1549	1552	1549	733
35°	1374	1357	1328	1317	1308	858
45°	1118	1106	1079	1060	1053	863
55°	846	836	814	793	784	757
65°	571	560	542	526	517	564
75°	299	295	286	276	279	319
85°	73	71	69	64	62	86
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1849.0	1849.0	1849.0	1849.0	1849.0
2.5°	1859.8	1850.9	1831.3	1849.0	1845.6
5°	1849.0	1842.0	1822.4	1836.6	1833.2
7.5°	1836.6	1826.0	1806.4	1820.7	1817.2
10°	1817.2	1804.7	1783.3	1797.5	1792.2
12.5°	1790.4	1779.8	1758.5	1767.3	1763.8
15°	1760.1	1749.6	1726.4	1733.6	1724.7
17.5°	1722.8	1712.3	1689.1	1697.9	1689.1
20°	1681.9	1671.4	1646.4	1651.7	1644.7
22.5°	1641.2	1625.1	1601.9	1601.9	1598.3
25°	1593.0	1578.9	1548.7	1552.1	1548.7
27.5°	1539.6	1527.2	1504.2	1498.9	1490.1
30°	1486.5	1472.1	1445.6	1440.3	1433.0
32.5°	1429.5	1418.9	1390.4	1379.7	1372.5
35°	1374.4	1356.7	1328.2	1317.4	1308.5
37.5°	1312.2	1296.1	1267.7	1255.2	1246.3
40°	1248.2	1233.9	1205.4	1189.6	1182.4
42.5°	1185.9	1171.6	1143.3	1125.4	1114.8
45°	1118.5	1105.9	1079.2	1059.8	1052.6
47.5°	1052.6	1040.1	1011.7	992.1	981.4
50°	983.2	974.3	949.4	924.5	915.6
52.5°	915.6	903.2	880.1	860.6	848.2
55°	846.4	835.6	814.3	793.0	784.2
57.5°	777.0	768.2	745.0	723.7	716.4
60°	707.6	700.6	675.7	656.1	650.8
62.5°	640.0	627.6	609.8	592.1	585.0
65°	570.8	560.1	542.4	526.3	517.4
67.5°	499.7	490.6	474.8	462.4	455.2
70°	433.9	426.7	410.7	398.2	391.2
72.5°	366.3	359.2	350.3	337.9	332.6
75°	298.6	295.3	286.1	275.6	279.2
77.5°	238.2	231.1	227.5	222.2	216.9
80°	177.9	176.0	172.4	167.1	163.5
82.5°	120.9	120.9	119.2	112.1	112.1
85°	72.8	71.1	69.4	63.9	62.3
87.5°	32.1	28.5	24.9	19.6	17.7
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	11.92	13.53	12.28	13.84	14.15	11.47	13.08	11.84	13.40	13.71
	3H	13.67	15.12	14.04	15.45	15.81	13.17	14.63	13.55	14.96	15.32
	4H	14.31	15.68	14.71	16.03	16.40	13.82	15.19	14.22	15.53	15.91
	6H	14.78	16.05	15.19	16.41	16.80	14.28	15.55	14.69	15.91	16.30
	8H	14.92	16.13	15.35	16.52	16.92	14.42	15.63	14.85	16.02	16.42
	12H	15.01	16.17	15.44	16.56	16.98	14.50	15.66	14.93	16.04	16.47
4H	2H	12.48	13.84	12.87	14.19	14.57	12.12	13.49	12.52	13.84	14.22
	3H	14.45	15.60	14.86	15.99	16.39	14.04	15.19	14.45	15.59	15.99
	4H	15.23	16.26	15.66	16.68	17.11	14.80	15.84	15.23	16.25	16.69
	6H	15.82	16.73	16.28	17.17	17.63	15.39	16.30	15.85	16.74	17.19
	8H	16.01	16.86	16.47	17.30	17.77	15.57	16.42	16.04	16.86	17.33
	12H	16.14	16.90	16.63	17.38	17.85	15.69	16.45	16.17	16.93	17.40
8H	4H	15.50	16.35	15.96	16.79	17.25	15.13	15.97	15.59	16.42	16.88
	6H	16.21	16.92	16.71	17.41	17.88	15.83	16.54	16.33	17.02	17.50
	8H	16.47	17.10	16.98	17.61	18.10	16.08	16.71	16.59	17.22	17.71
	12H	16.67	17.23	17.18	17.72	18.28	16.26	16.82	16.77	17.31	17.87
12H	4H	15.53	16.29	16.01	16.76	17.23	15.16	15.92	15.64	16.40	16.87
	6H	16.26	16.89	16.77	17.40	17.88	15.89	16.52	16.40	17.03	17.52
	8H	16.57	17.13	17.08	17.62	18.18	16.20	16.75	16.70	17.24	17.81