

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: P930011

Luminaire Tested: DFN2DS-4P4F0-070DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930011
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-4P4F0-070DS927-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

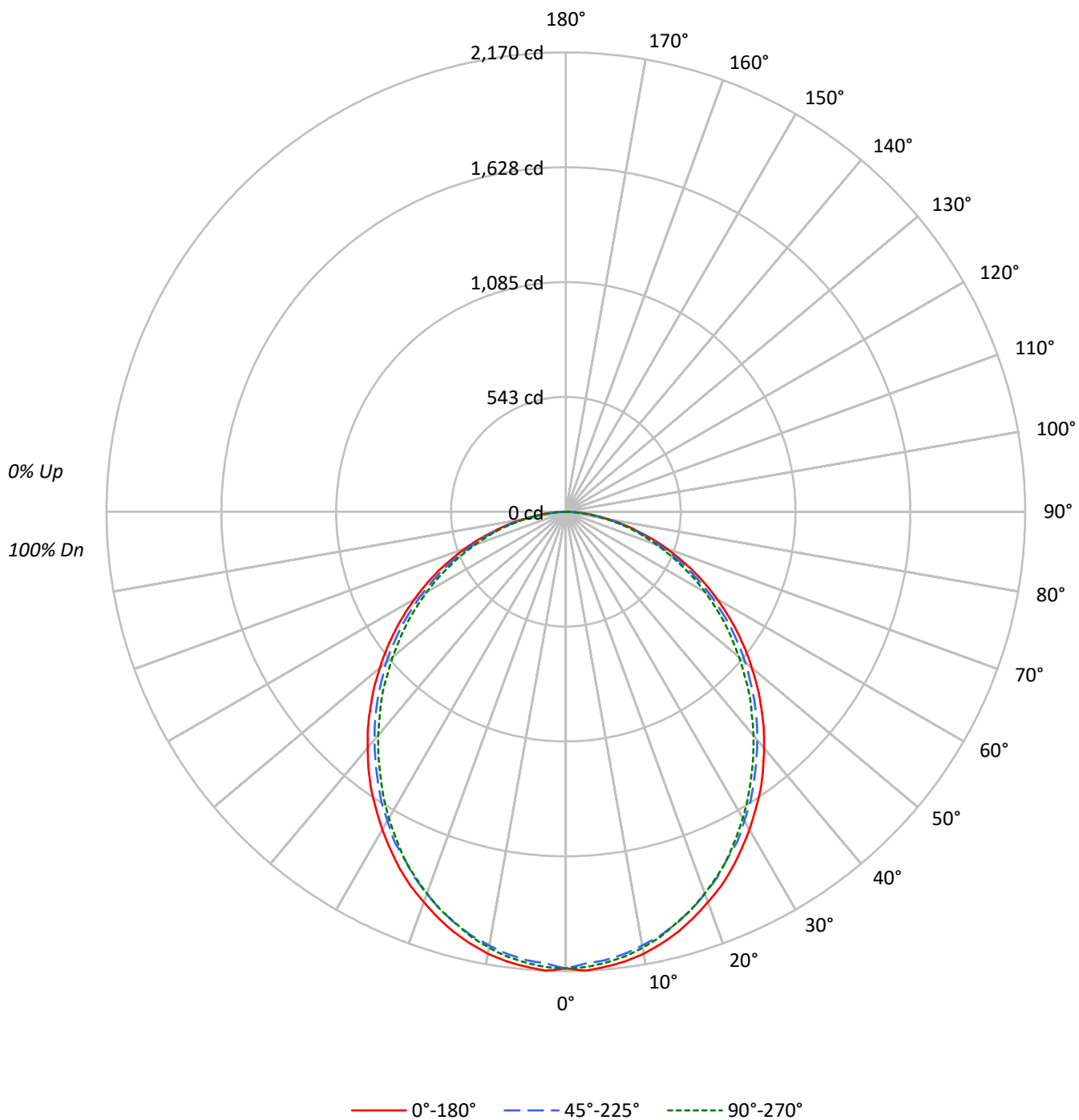
Lumens per Lamp: N/A
Luminaire Lumens: 5488.6 lumens
Efficiency: N/A
Efficacy: 73.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 74.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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°	1399	1399	1399
5°	1405	1385	1393
10°	1397	1371	1377
15°	1379	1353	1351
20°	1355	1326	1325
25°	1330	1293	1293
30°	1299	1263	1252
35°	1270	1227	1209
40°	1233	1191	1168
45°	1197	1155	1127
50°	1158	1118	1078
55°	1117	1075	1035
60°	1071	1023	985
65°	1022	971	927
70°	960	909	866
75°	873	837	816
80°	775	752	713
85°	633	603	540

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1197 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.0	3.7
10°-20°	571.3	10.4
20°-30°	839.5	15.3
30°-40°	975.1	17.8
40°-50°	973.8	17.7
50°-60°	849.2	15.5
60°-70°	627.7	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°	1613.8	29.4
0°-40°	2588.9	47.2
0°-60°	4411.9	80.4
0°-90°	5488.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5488.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2157	2157	2157	2157	2157	
5°	2157	2149	2126	2143	2139	205
15°	2054	2041	2014	2022	2012	578
25°	1859	1842	1807	1811	1807	855
35°	1604	1583	1550	1537	1527	1001
45°	1305	1290	1259	1236	1228	1007
55°	988	975	950	925	915	883
65°	666	653	633	614	604	658
75°	348	344	334	322	326	372
85°	85	83	81	75	73	100
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2157.2	2157.2	2157.2	2157.2	2157.2
2.5°	2169.8	2159.4	2136.5	2157.2	2153.2
5°	2157.2	2149.1	2126.2	2142.7	2138.7
7.5°	2142.7	2130.3	2107.4	2124.2	2120.0
10°	2120.0	2105.5	2080.6	2097.1	2091.0
12.5°	2088.7	2076.5	2051.6	2061.9	2057.7
15°	2053.6	2041.2	2014.1	2022.5	2012.2
17.5°	2009.9	1997.7	1970.6	1981.0	1970.6
20°	1962.2	1949.9	1920.8	1927.0	1918.9
22.5°	1914.7	1896.0	1868.9	1868.9	1864.7
25°	1858.6	1842.0	1806.9	1810.8	1806.9
27.5°	1796.3	1781.8	1754.9	1748.7	1738.4
30°	1734.2	1717.5	1686.5	1680.3	1671.9
32.5°	1667.7	1655.4	1622.2	1609.7	1601.3
35°	1603.5	1582.8	1549.5	1537.0	1526.7
37.5°	1530.9	1512.2	1478.9	1464.4	1454.0
40°	1456.3	1439.5	1406.3	1387.8	1379.4
42.5°	1383.6	1366.9	1333.9	1313.0	1300.6
45°	1304.8	1290.3	1259.0	1236.4	1228.0
47.5°	1228.0	1213.5	1180.2	1157.3	1145.1
50°	1147.1	1136.7	1107.6	1078.6	1068.2
52.5°	1068.2	1053.8	1026.9	1004.0	989.4
55°	987.5	975.0	950.1	925.2	914.8
57.5°	906.5	896.1	869.1	844.2	835.9
60°	825.5	817.3	788.4	765.5	759.3
62.5°	746.7	732.2	711.5	690.9	682.5
65°	666.0	653.4	632.7	614.0	603.7
67.5°	583.0	572.5	553.9	539.4	531.0
70°	506.2	497.9	479.1	464.6	456.4
72.5°	427.4	419.0	408.7	394.2	388.0
75°	348.4	344.4	333.8	321.6	325.7
77.5°	278.0	269.6	265.4	259.2	253.1
80°	207.5	205.4	201.2	195.0	190.8
82.5°	141.1	141.1	139.1	130.8	130.8
85°	85.0	83.0	81.0	74.6	72.6
87.5°	37.4	33.3	29.1	22.9	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	12.45	14.06	12.81	14.37	14.69	12.01	13.62	12.37	13.93	14.24
	3H	14.20	15.65	14.58	15.98	16.34	13.71	15.16	14.09	15.49	15.85
	4H	14.85	16.22	15.25	16.56	16.94	14.35	15.72	14.75	16.07	16.44
	6H	15.32	16.58	15.73	16.95	17.34	14.81	16.08	15.23	16.45	16.84
	8H	15.46	16.67	15.88	17.06	17.46	14.96	16.17	15.38	16.56	16.95
	12H	15.55	16.71	15.98	17.09	17.52	15.04	16.20	15.47	16.58	17.01
4H	2H	13.01	14.38	13.41	14.73	15.10	12.66	14.03	13.06	14.37	14.75
	3H	14.99	16.13	15.40	16.53	16.93	14.58	15.73	14.99	16.12	16.52
	4H	15.76	16.80	16.19	17.21	17.65	15.34	16.37	15.77	16.79	17.22
	6H	16.36	17.26	16.81	17.70	18.16	15.93	16.83	16.38	17.27	17.73
	8H	16.55	17.39	17.01	17.84	18.30	16.11	16.96	16.57	17.40	17.86
	12H	16.68	17.44	17.16	17.92	18.39	16.23	16.99	16.71	17.46	17.93
8H	4H	16.04	16.88	16.50	17.32	17.79	15.66	16.51	16.12	16.95	17.42
	6H	16.75	17.45	17.24	17.94	18.42	16.37	17.07	16.86	17.56	18.04
	8H	17.01	17.64	17.52	18.15	18.63	16.62	17.25	17.13	17.76	18.24
	12H	17.21	17.77	17.72	18.26	18.82	16.80	17.35	17.30	17.84	18.41
12H	4H	16.06	16.82	16.54	17.30	17.77	15.70	16.46	16.18	16.93	17.40
	6H	16.80	17.43	17.31	17.93	18.42	16.43	17.06	16.94	17.57	18.05
	8H	17.11	17.67	17.62	18.16	18.72	16.73	17.29	17.24	17.78	18.34