

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: P930008

Luminaire Tested: DFN2DS-4P4F0-070DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930008
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P4F0-070DS840-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

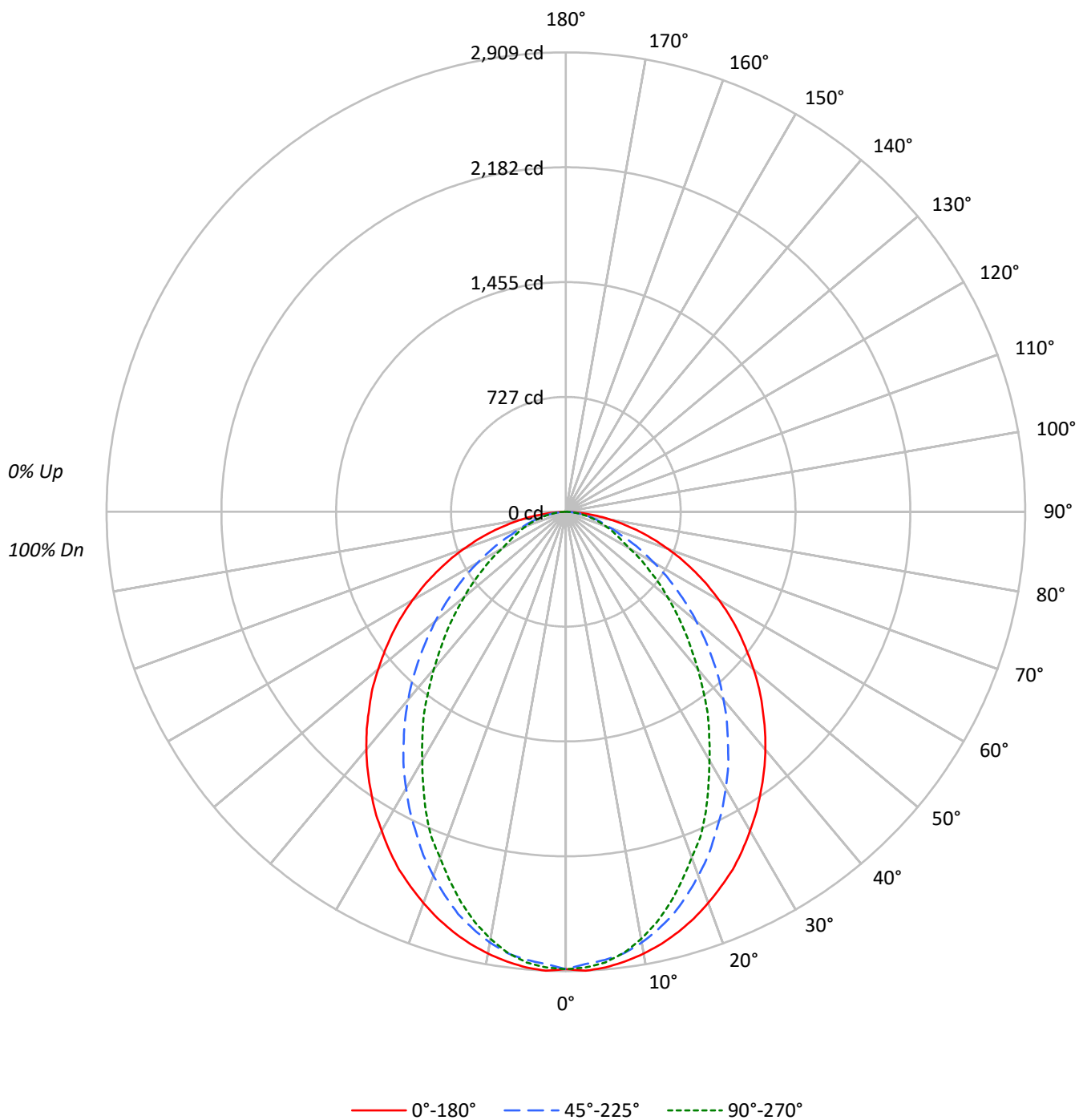
Lumens per Lamp: N/A
Luminaire Lumens: 5955.9 lumens
Efficiency: N/A
Efficacy: 79.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1879	1879	1879
5°	1886	1855	1865
10°	1871	1825	1809
15°	1850	1771	1720
20°	1820	1694	1608
25°	1790	1606	1501
30°	1747	1516	1362
35°	1706	1418	1241
40°	1665	1316	1101
45°	1616	1202	974
50°	1566	1087	849
55°	1515	963	729
60°	1455	833	605
65°	1388	700	551
70°	1307	576	507
75°	1209	525	473
80°	1067	470	431
85°	838	370	370

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1616 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.4	4.6
10°-20°	745.1	12.5
20°-30°	1046.1	17.6
30°-40°	1140.3	19.1
40°-50°	1048.1	17.6
50°-60°	823.1	13.8
60°-70°	535.7	9.0
70°-80°	275.8	4.6
80°-90°	70.4	1.2
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°	2062.6	34.6
0°-40°	3202.9	53.8
0°-60°	5074.0	85.2
0°-90°	5955.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5955.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2896	2896	2896	2896	2896	
5°	2896	2883	2849	2872	2865	275
15°	2754	2726	2636	2587	2561	776
25°	2500	2416	2243	2136	2097	1150
35°	2154	2021	1790	1625	1567	1348
45°	1761	1586	1310	1124	1061	1360
55°	1339	1135	852	695	645	1197
65°	904	692	456	367	359	896
75°	482	299	210	191	189	510
85°	113	58	50	50	50	135
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2896.0	2896.0	2896.0	2896.0	2896.0
2.5°	2909.0	2896.0	2867.1	2893.5	2888.2
5°	2896.0	2882.9	2848.7	2872.4	2864.6
7.5°	2872.4	2856.8	2820.1	2830.3	2817.3
10°	2840.9	2822.6	2770.3	2762.3	2746.6
12.5°	2801.7	2778.1	2707.2	2691.6	2662.7
15°	2754.5	2725.5	2636.5	2586.8	2560.7
17.5°	2699.4	2657.5	2547.3	2489.7	2447.7
20°	2636.5	2584.0	2453.1	2387.7	2329.8
22.5°	2568.5	2508.1	2356.0	2267.0	2227.8
25°	2500.3	2416.3	2243.3	2136.0	2096.6
27.5°	2419.1	2329.8	2138.5	2015.4	1955.1
30°	2332.6	2232.8	2023.1	1889.7	1818.8
32.5°	2248.6	2128.0	1913.3	1756.0	1690.3
35°	2154.4	2020.6	1790.2	1625.0	1567.2
37.5°	2062.7	1918.3	1674.8	1493.7	1428.4
40°	1965.6	1808.5	1554.1	1368.1	1299.9
42.5°	1866.1	1698.4	1433.6	1239.5	1174.3
45°	1761.3	1585.5	1310.5	1124.2	1061.4
47.5°	1661.7	1475.7	1192.6	1006.3	948.7
50°	1551.5	1365.6	1077.2	896.2	841.4
52.5°	1443.9	1247.3	967.1	794.1	744.3
55°	1339.1	1134.7	851.7	694.6	644.8
57.5°	1231.8	1022.1	749.6	602.8	560.9
60°	1121.7	912.0	642.0	508.6	466.6
62.5°	1014.3	804.7	550.2	424.6	403.7
65°	904.2	691.8	456.1	367.1	359.0
67.5°	799.4	587.0	367.1	322.2	314.5
70°	689.3	484.9	303.9	277.8	267.2
72.5°	584.5	390.4	254.2	233.3	228.0
75°	482.2	298.6	209.6	191.3	188.8
77.5°	380.1	212.1	165.2	154.6	149.3
80°	285.6	152.1	125.7	115.4	115.4
82.5°	199.1	102.3	86.5	81.2	81.2
85°	112.6	57.6	49.7	49.7	49.7
87.5°	41.9	20.8	20.8	18.3	18.3
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	13.43	14.95	13.79	15.26	15.58	9.39	10.91	9.75	11.22	11.54
	3H	15.19	16.56	15.57	16.88	17.25	10.65	12.02	11.03	12.34	12.71
	4H	15.86	17.14	16.26	17.49	17.86	11.15	12.43	11.55	12.78	13.16
	6H	16.35	17.53	16.76	17.90	18.29	11.53	12.72	11.95	13.08	13.48
	8H	16.51	17.64	16.94	18.03	18.43	11.66	12.79	12.08	13.17	13.58
	12H	16.61	17.69	17.05	18.07	18.50	11.74	12.82	12.17	13.20	13.63
4H	2H	13.53	14.81	13.93	15.16	15.54	10.08	11.36	10.48	11.71	12.09
	3H	15.46	16.53	15.87	16.93	17.33	11.52	12.59	11.94	12.99	13.39
	4H	16.21	17.17	16.64	17.58	18.02	12.12	13.08	12.56	13.50	13.93
	6H	16.80	17.64	17.26	18.08	18.54	12.61	13.44	13.07	13.89	14.35
	8H	17.02	17.80	17.48	18.24	18.71	12.77	13.55	13.24	14.00	14.46
	12H	17.17	17.87	17.65	18.34	18.82	12.89	13.59	13.37	14.06	14.54
8H	4H	16.24	17.01	16.70	17.46	17.93	12.48	13.26	12.94	13.70	14.17
	6H	16.87	17.52	17.37	18.01	18.49	13.06	13.71	13.56	14.20	14.68
	8H	17.12	17.70	17.64	18.21	18.70	13.29	13.86	13.80	14.37	14.86
	12H	17.33	17.84	17.84	18.33	18.89	13.46	13.97	13.97	14.47	15.03
12H	4H	16.22	16.92	16.70	17.39	17.86	12.52	13.22	13.00	13.69	14.17
	6H	16.85	17.43	17.37	17.94	18.43	13.13	13.71	13.64	14.22	14.70
	8H	17.14	17.65	17.65	18.14	18.71	13.40	13.91	13.91	14.40	14.97