

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: P929987

Luminaire Tested: DFN2DS-4P4F0-060DS835-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929987
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-4P4F0-060DS835-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

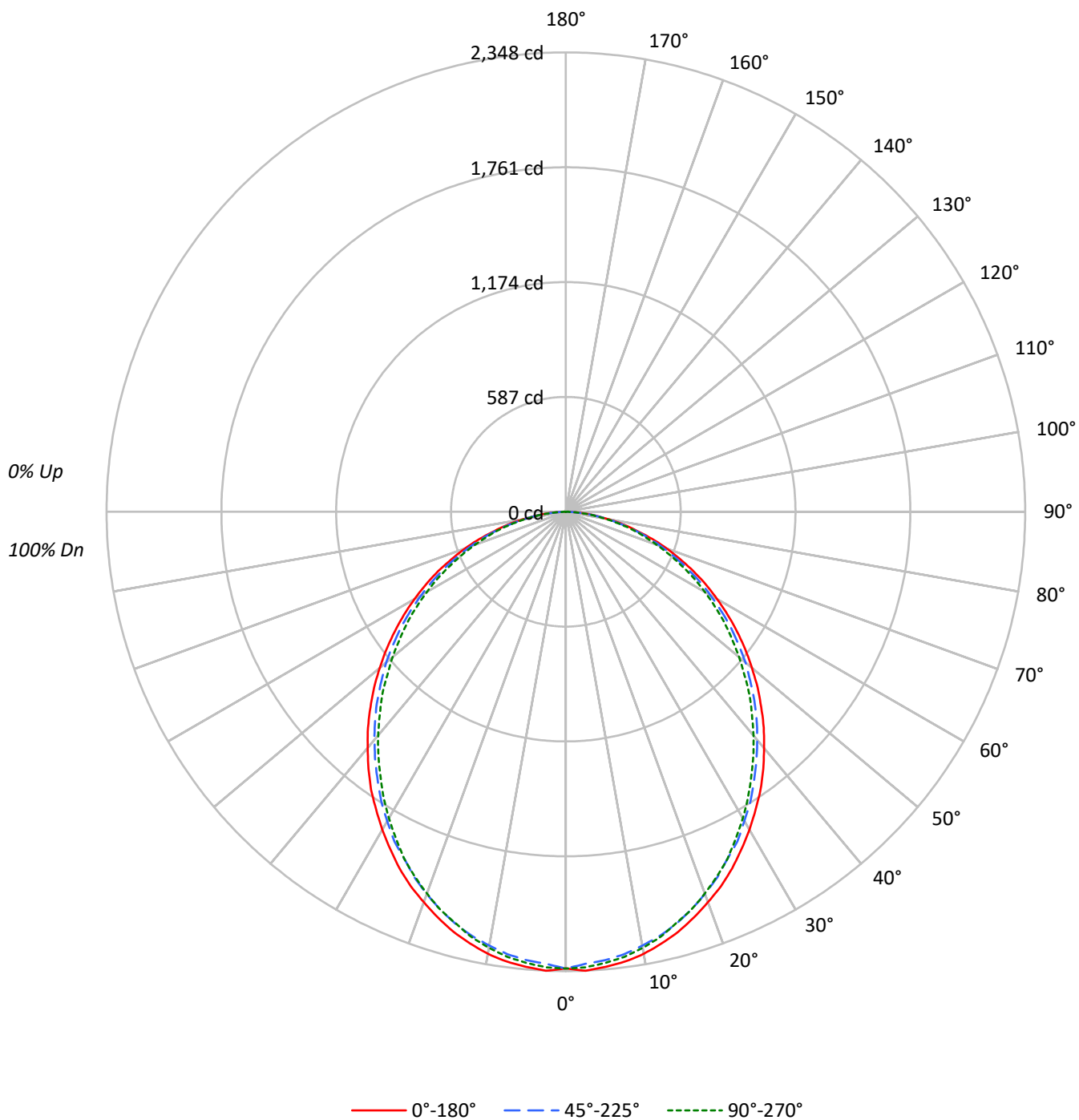
Lumens per Lamp: N/A
Luminaire Lumens: 5940.0 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

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°	1515	1515	1515
5°	1520	1498	1507
10°	1511	1483	1491
15°	1493	1464	1463
20°	1466	1435	1434
25°	1440	1400	1400
30°	1406	1367	1355
35°	1374	1328	1308
40°	1335	1289	1264
45°	1296	1250	1219
50°	1253	1210	1167
55°	1209	1163	1120
60°	1159	1107	1066
65°	1106	1051	1003
70°	1039	983	937
75°	945	906	884
80°	839	813	771
85°	684	652	585

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1296 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.7	3.7
10°-20°	618.3	10.4
20°-30°	908.6	15.3
30°-40°	1055.3	17.8
40°-50°	1054.0	17.7
50°-60°	919.0	15.5
60°-70°	679.4	11.4
70°-80°	384.4	6.5
80°-90°	101.4	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°	1746.6	29.4
0°-40°	2801.8	47.2
0°-60°	4774.8	80.4
0°-90°	5940.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5940.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2335	2335	2335	2335	2335	
5°	2335	2326	2301	2319	2315	222
15°	2222	2209	2180	2189	2178	626
25°	2011	1994	1955	1960	1955	926
35°	1735	1713	1677	1663	1652	1084
45°	1412	1396	1363	1338	1329	1090
55°	1069	1055	1028	1001	990	955
65°	721	707	685	664	653	713
75°	377	373	361	348	352	402
85°	92	90	88	81	79	108
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2334.6	2334.6	2334.6	2334.6	2334.6
2.5°	2348.2	2337.0	2312.2	2334.6	2330.3
5°	2334.6	2325.8	2301.0	2318.9	2314.6
7.5°	2318.9	2305.6	2280.8	2298.9	2294.4
10°	2294.4	2278.7	2251.7	2269.6	2262.9
12.5°	2260.6	2247.2	2220.3	2231.5	2227.0
15°	2222.4	2209.1	2179.8	2188.9	2177.7
17.5°	2175.3	2162.0	2132.7	2143.8	2132.7
20°	2123.6	2110.3	2078.8	2085.5	2076.7
22.5°	2072.2	2051.9	2022.6	2022.6	2018.1
25°	2011.4	1993.6	1955.4	1959.7	1955.4
27.5°	1944.0	1928.3	1899.2	1892.6	1881.4
30°	1876.9	1858.7	1825.2	1818.5	1809.4
32.5°	1804.9	1791.6	1755.6	1742.0	1733.0
35°	1735.4	1713.0	1677.0	1663.4	1652.2
37.5°	1656.8	1636.5	1600.6	1584.8	1573.6
40°	1576.0	1557.9	1522.0	1502.0	1492.9
42.5°	1497.4	1479.3	1443.6	1421.0	1407.6
45°	1412.2	1396.4	1362.6	1338.1	1329.0
47.5°	1329.0	1313.3	1277.4	1252.6	1239.2
50°	1241.4	1230.2	1198.8	1167.3	1156.1
52.5°	1156.1	1140.4	1111.3	1086.6	1070.9
55°	1068.7	1055.1	1028.2	1001.3	990.1
57.5°	981.1	969.9	940.6	913.7	904.6
60°	893.4	884.6	853.2	828.4	821.7
62.5°	808.1	792.4	770.0	747.6	738.6
65°	720.7	707.2	684.8	664.5	653.3
67.5°	630.9	619.5	599.5	583.8	574.7
70°	547.8	538.8	518.5	502.8	494.0
72.5°	462.5	453.5	442.3	426.6	419.9
75°	377.0	372.8	361.3	348.0	352.5
77.5°	300.8	291.8	287.2	280.6	273.9
80°	224.6	222.2	217.7	211.0	206.5
82.5°	152.7	152.7	150.5	141.5	141.5
85°	91.9	89.8	87.6	80.7	78.6
87.5°	40.5	36.0	31.4	24.8	22.4
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	12.73	14.34	13.09	14.65	14.96	12.28	13.89	12.65	14.21	14.52
	3H	14.48	15.93	14.85	16.26	16.62	13.98	15.44	14.36	15.77	16.13
	4H	15.12	16.49	15.52	16.84	17.21	14.63	16.00	15.02	16.34	16.72
	6H	15.59	16.86	16.00	17.22	17.61	15.09	16.36	15.50	16.72	17.11
	8H	15.73	16.94	16.16	17.33	17.73	15.23	16.44	15.66	16.83	17.23
	12H	15.82	16.98	16.25	17.37	17.79	15.31	16.47	15.74	16.85	17.28
4H	2H	13.29	14.65	13.68	15.00	15.38	12.93	14.30	13.33	14.65	15.03
	3H	15.26	16.41	15.67	16.80	17.20	14.85	16.00	15.26	16.40	16.80
	4H	16.04	17.07	16.47	17.49	17.92	15.61	16.65	16.04	17.06	17.50
	6H	16.63	17.54	17.09	17.98	18.44	16.20	17.11	16.66	17.55	18.00
	8H	16.82	17.67	17.28	18.11	18.58	16.39	17.23	16.85	17.67	18.14
	12H	16.95	17.71	17.44	18.19	18.66	16.50	17.26	16.98	17.74	18.21
8H	4H	16.31	17.16	16.77	17.60	18.06	15.94	16.78	16.40	17.23	17.69
	6H	17.02	17.73	17.52	18.22	18.69	16.64	17.35	17.14	17.83	18.31
	8H	17.28	17.91	17.79	18.42	18.91	16.89	17.52	17.40	18.03	18.52
	12H	17.48	18.04	17.99	18.53	19.09	17.07	17.63	17.58	18.12	18.68
12H	4H	16.34	17.10	16.82	17.57	18.04	15.97	16.73	16.45	17.21	17.68
	6H	17.07	17.70	17.58	18.21	18.69	16.70	17.33	17.21	17.84	18.33
	8H	17.38	17.94	17.89	18.43	18.99	17.01	17.56	17.51	18.05	18.62