

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: P929963

Luminaire Tested: DFN2DS-4P4F0-040DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929963
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-4P4F0-040DS940-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

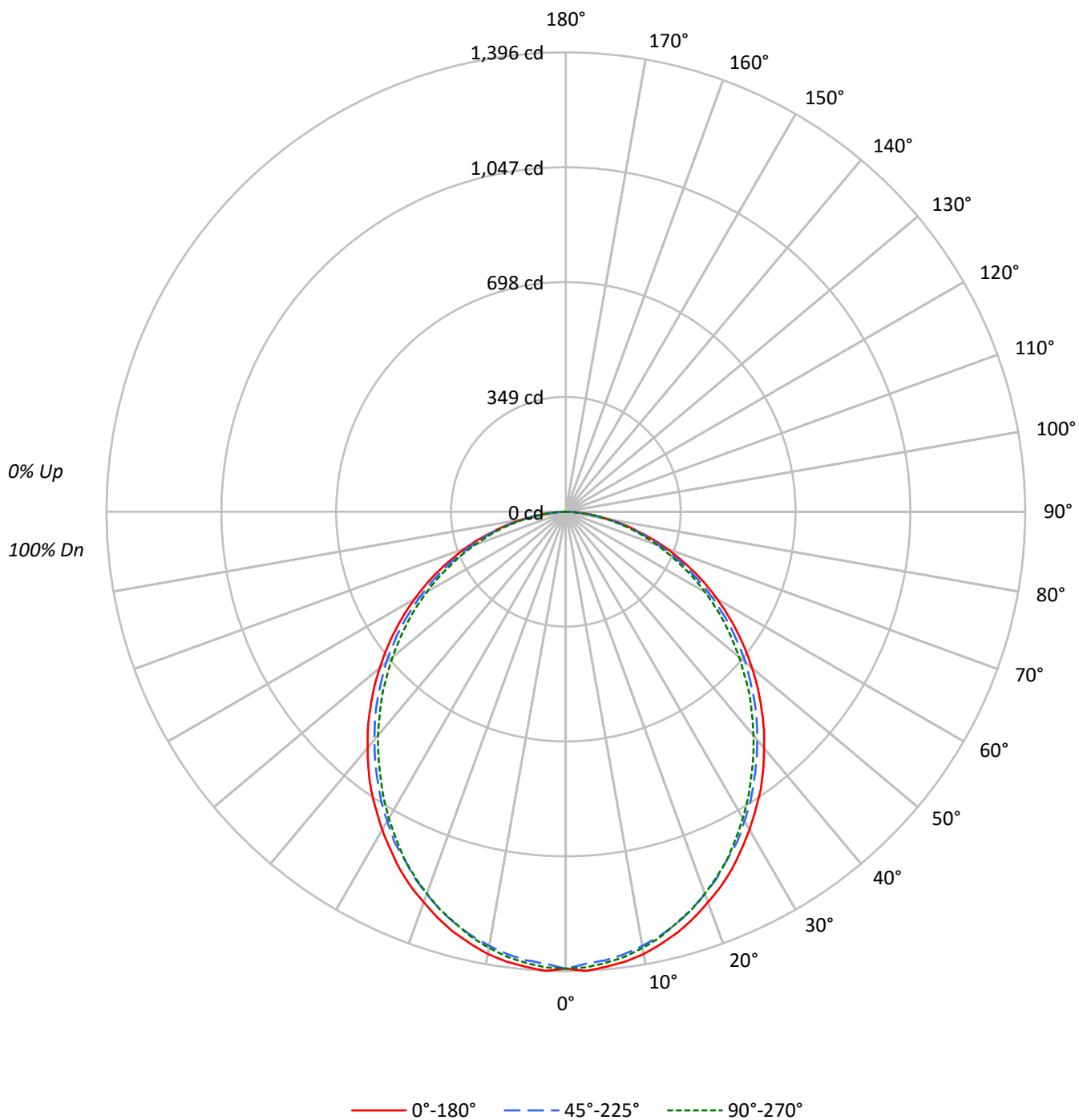
Lumens per Lamp: N/A
Luminaire Lumens: 3532.3 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 39.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929963

CATALOG NUMBER: DFN2DS-4P4F0-040DS940-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P929963

CATALOG NUMBER: DFN2DS-4P4F0-040DS940-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°	901	901	901
5°	904	891	896
10°	899	882	886
15°	888	871	870
20°	872	853	853
25°	856	832	832
30°	836	813	806
35°	817	790	778
40°	794	766	752
45°	770	743	725
50°	745	720	694
55°	719	692	666
60°	689	658	634
65°	658	625	597
70°	618	585	557
75°	562	539	525
80°	499	483	459
85°	407	388	348

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 770 cd/sqm

TEST NUMBER: P929963

CATALOG NUMBER: DFN2DS-4P4F0-040DS940-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.7	3.7
10°-20°	367.6	10.4
20°-30°	540.3	15.3
30°-40°	627.5	17.8
40°-50°	626.8	17.7
50°-60°	546.5	15.5
60°-70°	404.0	11.4
70°-80°	228.6	6.5
80°-90°	60.3	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°	1038.6	29.4
0°-40°	1666.2	47.2
0°-60°	2839.4	80.4
0°-90°	3532.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3532.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1388	1383	1368	1379	1376	132
15°	1322	1314	1296	1302	1295	372
25°	1196	1186	1163	1165	1163	550
35°	1032	1019	997	989	982	644
45°	840	830	810	796	790	648
55°	636	627	612	595	589	568
65°	429	420	407	395	389	424
75°	224	222	215	207	210	239
85°	55	53	52	48	47	64
90°	0	0	0	0	0	

TEST NUMBER: P929963

CATALOG NUMBER: DFN2DS-4P4F0-040DS940-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1388.3	1388.3	1388.3	1388.3	1388.3
2.5°	1396.4	1389.7	1375.0	1388.3	1385.8
5°	1388.3	1383.0	1368.3	1378.9	1376.4
7.5°	1378.9	1371.0	1356.3	1367.1	1364.4
10°	1364.4	1355.0	1339.1	1349.7	1345.7
12.5°	1344.2	1336.3	1320.3	1327.0	1324.3
15°	1321.6	1313.6	1296.3	1301.6	1295.0
17.5°	1293.6	1285.6	1268.2	1274.8	1268.2
20°	1262.8	1254.9	1236.2	1240.1	1235.0
22.5°	1232.2	1220.2	1202.8	1202.8	1200.1
25°	1196.1	1185.5	1162.8	1165.4	1162.8
27.5°	1156.0	1146.7	1129.5	1125.4	1118.8
30°	1116.1	1105.4	1085.4	1081.4	1076.0
32.5°	1073.3	1065.4	1044.0	1036.0	1030.5
35°	1032.0	1018.7	997.3	989.2	982.5
37.5°	985.2	973.2	951.8	942.5	935.8
40°	937.2	926.4	905.0	893.2	887.8
42.5°	890.5	879.7	858.5	845.0	837.1
45°	839.7	830.5	810.3	795.8	790.3
47.5°	790.3	780.9	759.6	744.9	737.0
50°	738.2	731.5	712.9	694.2	687.5
52.5°	687.5	678.2	660.9	646.2	636.8
55°	635.6	627.4	611.5	595.4	588.8
57.5°	583.4	576.8	559.3	543.3	538.0
60°	531.3	526.0	507.4	492.7	488.6
62.5°	480.6	471.2	458.0	444.6	439.2
65°	428.6	420.5	407.2	395.2	388.6
67.5°	375.2	368.4	356.5	347.2	341.8
70°	325.8	320.4	308.4	299.0	293.7
72.5°	275.1	269.7	263.1	253.7	249.7
75°	224.2	221.7	214.9	206.9	209.6
77.5°	178.8	173.5	170.8	166.8	162.9
80°	133.5	132.1	129.4	125.5	122.8
82.5°	90.8	90.8	89.6	84.1	84.1
85°	54.7	53.4	52.1	48.0	46.7
87.5°	24.1	21.4	18.7	14.7	13.3
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929963

CATALOG NUMBER: DFN2DS-4P4F0-040DS940-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	10.92	12.53	11.28	12.84	13.16	10.47	12.09	10.84	12.40	12.71
	3H	12.67	14.12	13.05	14.45	14.81	12.18	13.63	12.56	13.96	14.32
	4H	13.32	14.68	13.71	15.03	15.41	12.82	14.19	13.22	14.54	14.91
	6H	13.78	15.05	14.20	15.42	15.81	13.28	14.55	13.69	14.92	15.31
	8H	13.93	15.14	14.35	15.53	15.93	13.42	14.64	13.85	15.02	15.42
	12H	14.02	15.18	14.45	15.56	15.99	13.51	14.67	13.93	15.05	15.48
4H	2H	11.48	12.85	11.88	13.20	13.57	11.13	12.50	11.52	12.84	13.22
	3H	13.46	14.60	13.86	15.00	15.40	13.05	14.19	13.46	14.59	14.99
	4H	14.23	15.27	14.66	15.68	16.12	13.81	14.84	14.24	15.26	15.69
	6H	14.83	15.73	15.28	16.17	16.63	14.40	15.30	14.85	15.74	16.20
	8H	15.02	15.86	15.48	16.31	16.77	14.58	15.43	15.04	15.87	16.33
	12H	15.15	15.91	15.63	16.38	16.85	14.70	15.46	15.18	15.93	16.40
8H	4H	14.50	15.35	14.97	15.79	16.26	14.13	14.98	14.59	15.42	15.88
	6H	15.22	15.92	15.71	16.41	16.89	14.84	15.54	15.33	16.03	16.50
	8H	15.48	16.11	15.99	16.62	17.10	15.09	15.72	15.60	16.22	16.71
	12H	15.68	16.24	16.18	16.73	17.29	15.26	15.82	15.77	16.31	16.87
12H	4H	14.53	15.29	15.01	15.77	16.24	14.17	14.93	14.65	15.40	15.87
	6H	15.26	15.90	15.77	16.40	16.89	14.90	15.53	15.41	16.03	16.52
	8H	15.58	16.14	16.08	16.63	17.19	15.20	15.76	15.71	16.25	16.81