

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: P929977

Luminaire Tested: DFN2DS-4P4F0-050DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929977
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-4P4F0-050DS930-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

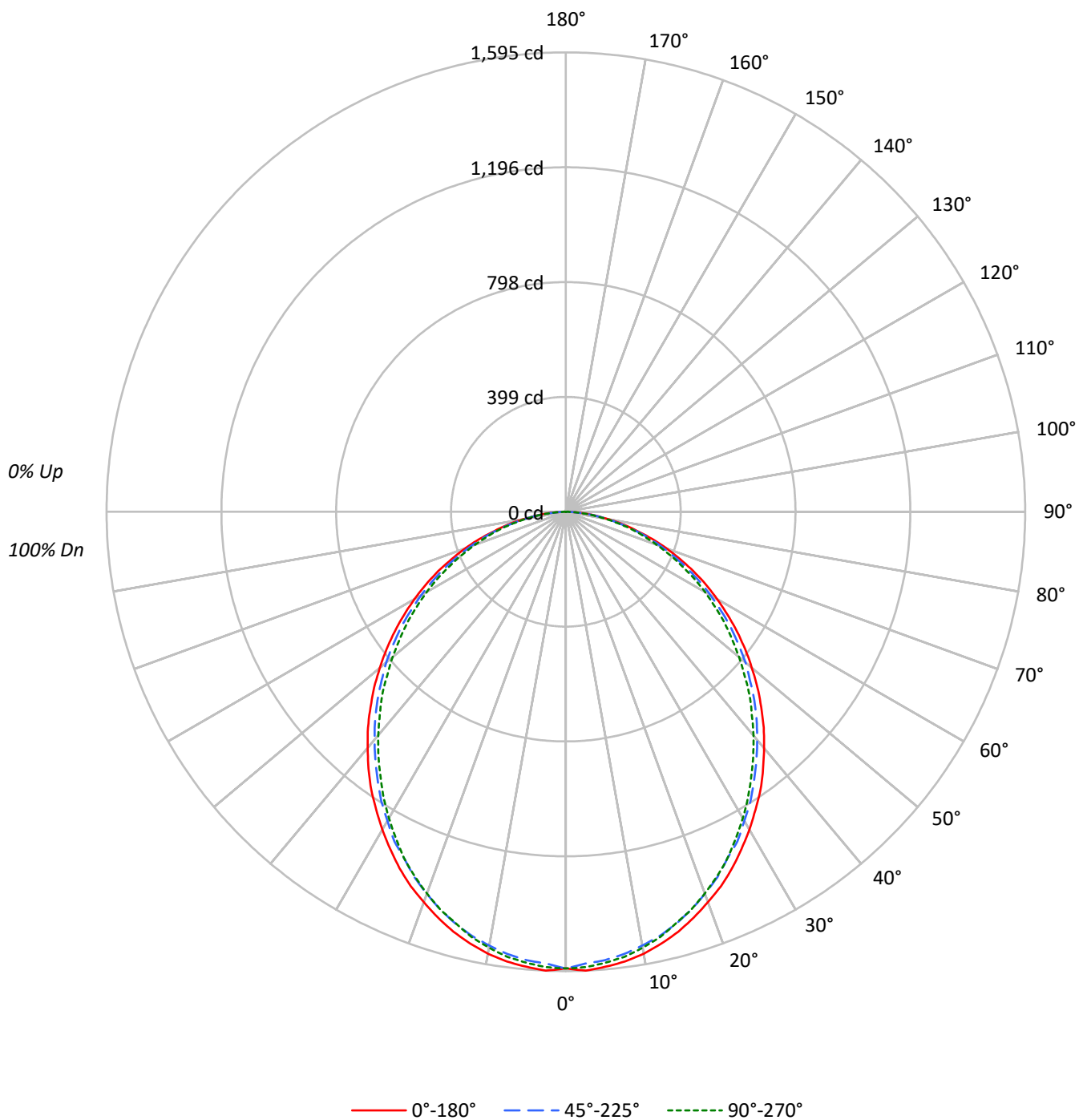
Lumens per Lamp: N/A
Luminaire Lumens: 4034.2 lumens
Efficiency: N/A
Efficacy: 79.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 50.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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°	1029	1029	1029
5°	1033	1018	1024
10°	1027	1007	1012
15°	1014	994	993
20°	996	975	974
25°	978	951	951
30°	955	929	921
35°	933	902	889
40°	906	875	859
45°	880	849	828
50°	851	822	792
55°	821	790	761
60°	787	752	724
65°	751	714	681
70°	706	668	636
75°	642	615	600
80°	570	552	524
85°	464	443	397

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 880 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.2	3.7
10°-20°	419.9	10.4
20°-30°	617.1	15.3
30°-40°	716.7	17.8
40°-50°	715.8	17.7
50°-60°	624.2	15.5
60°-70°	461.4	11.4
70°-80°	261.0	6.5
80°-90°	68.9	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°	1186.2	29.4
0°-40°	1902.9	47.2
0°-60°	3242.9	80.4
0°-90°	4034.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4034.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1586	1586	1586	1586	1586	
5°	1586	1580	1563	1575	1572	151
15°	1509	1500	1480	1487	1479	425
25°	1366	1354	1328	1331	1328	629
35°	1179	1163	1139	1130	1122	736
45°	959	948	925	909	903	740
55°	726	717	698	680	672	649
65°	490	480	465	451	444	484
75°	256	253	245	236	239	273
85°	62	61	60	55	53	73
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1585.6	1585.6	1585.6	1585.6	1585.6
2.5°	1594.8	1587.2	1570.4	1585.6	1582.7
5°	1585.6	1579.6	1562.8	1574.9	1572.1
7.5°	1574.9	1565.9	1549.1	1561.4	1558.3
10°	1558.3	1547.6	1529.3	1541.4	1536.9
12.5°	1535.3	1526.3	1508.0	1515.6	1512.5
15°	1509.4	1500.3	1480.4	1486.6	1479.0
17.5°	1477.4	1468.3	1448.4	1456.0	1448.4
20°	1442.3	1433.3	1411.9	1416.4	1410.4
22.5°	1407.3	1393.6	1373.7	1373.7	1370.6
25°	1366.1	1354.0	1328.0	1331.0	1328.0
27.5°	1320.3	1309.6	1289.9	1285.3	1277.8
30°	1274.7	1262.4	1239.6	1235.1	1228.9
32.5°	1225.8	1216.8	1192.3	1183.1	1177.0
35°	1178.6	1163.4	1139.0	1129.8	1122.2
37.5°	1125.2	1111.5	1087.0	1076.4	1068.8
40°	1070.4	1058.1	1033.7	1020.1	1013.9
42.5°	1017.0	1004.7	980.4	965.0	956.0
45°	959.1	948.4	925.4	908.8	902.6
47.5°	902.6	891.9	867.6	850.7	841.7
50°	843.1	835.5	814.2	792.8	785.2
52.5°	785.2	774.5	754.8	738.0	727.3
55°	725.8	716.6	698.3	680.0	672.5
57.5°	666.3	658.7	638.8	620.5	614.3
60°	606.8	600.8	579.5	562.6	558.1
62.5°	548.9	538.2	523.0	507.7	501.6
65°	489.5	480.3	465.0	451.3	443.7
67.5°	428.5	420.8	407.2	396.5	390.3
70°	372.0	365.9	352.2	341.5	335.5
72.5°	314.2	308.0	300.4	289.7	285.2
75°	256.1	253.1	245.4	236.4	239.4
77.5°	204.3	198.1	195.1	190.5	186.1
80°	152.6	150.9	147.8	143.4	140.3
82.5°	103.7	103.7	102.2	96.1	96.1
85°	62.4	61.0	59.5	54.8	53.4
87.5°	27.5	24.4	21.4	16.8	15.2
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	11.38	12.99	11.75	13.31	13.62	10.94	12.55	11.30	12.86	13.18
	3H	13.13	14.59	13.51	14.91	15.27	12.64	14.09	13.02	14.42	14.78
	4H	13.78	15.15	14.18	15.49	15.87	13.28	14.65	13.68	15.00	15.38
	6H	14.25	15.51	14.66	15.88	16.27	13.75	15.01	14.16	15.38	15.77
	8H	14.39	15.60	14.81	15.99	16.39	13.89	15.10	14.31	15.49	15.89
	12H	14.48	15.64	14.91	16.02	16.45	13.97	15.13	14.40	15.51	15.94
4H	2H	11.94	13.31	12.34	13.66	14.03	11.59	12.96	11.99	13.30	13.68
	3H	13.92	15.06	14.33	15.46	15.86	13.51	14.66	13.92	15.05	15.45
	4H	14.69	15.73	15.12	16.14	16.58	14.27	15.30	14.70	15.72	16.15
	6H	15.29	16.19	15.74	16.63	17.09	14.86	15.76	15.31	16.20	16.66
	8H	15.48	16.33	15.94	16.77	17.23	15.04	15.89	15.50	16.33	16.80
	12H	15.61	16.37	16.09	16.85	17.32	15.16	15.92	15.64	16.39	16.86
8H	4H	14.97	15.81	15.43	16.25	16.72	14.59	15.44	15.05	15.88	16.35
	6H	15.68	16.38	16.17	16.87	17.35	15.30	16.00	15.79	16.49	16.97
	8H	15.94	16.57	16.45	17.08	17.56	15.55	16.18	16.06	16.69	17.17
	12H	16.14	16.70	16.65	17.19	17.75	15.73	16.28	16.23	16.77	17.34
12H	4H	14.99	15.75	15.47	16.23	16.70	14.63	15.39	15.11	15.86	16.33
	6H	15.73	16.36	16.24	16.86	17.35	15.36	15.99	15.87	16.50	16.98
	8H	16.04	16.60	16.55	17.09	17.65	15.66	16.22	16.17	16.71	17.27