

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: P929837

Luminaire Tested: DFN2DS-4P2F0-040DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929837
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-4P2F0-040DS940-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

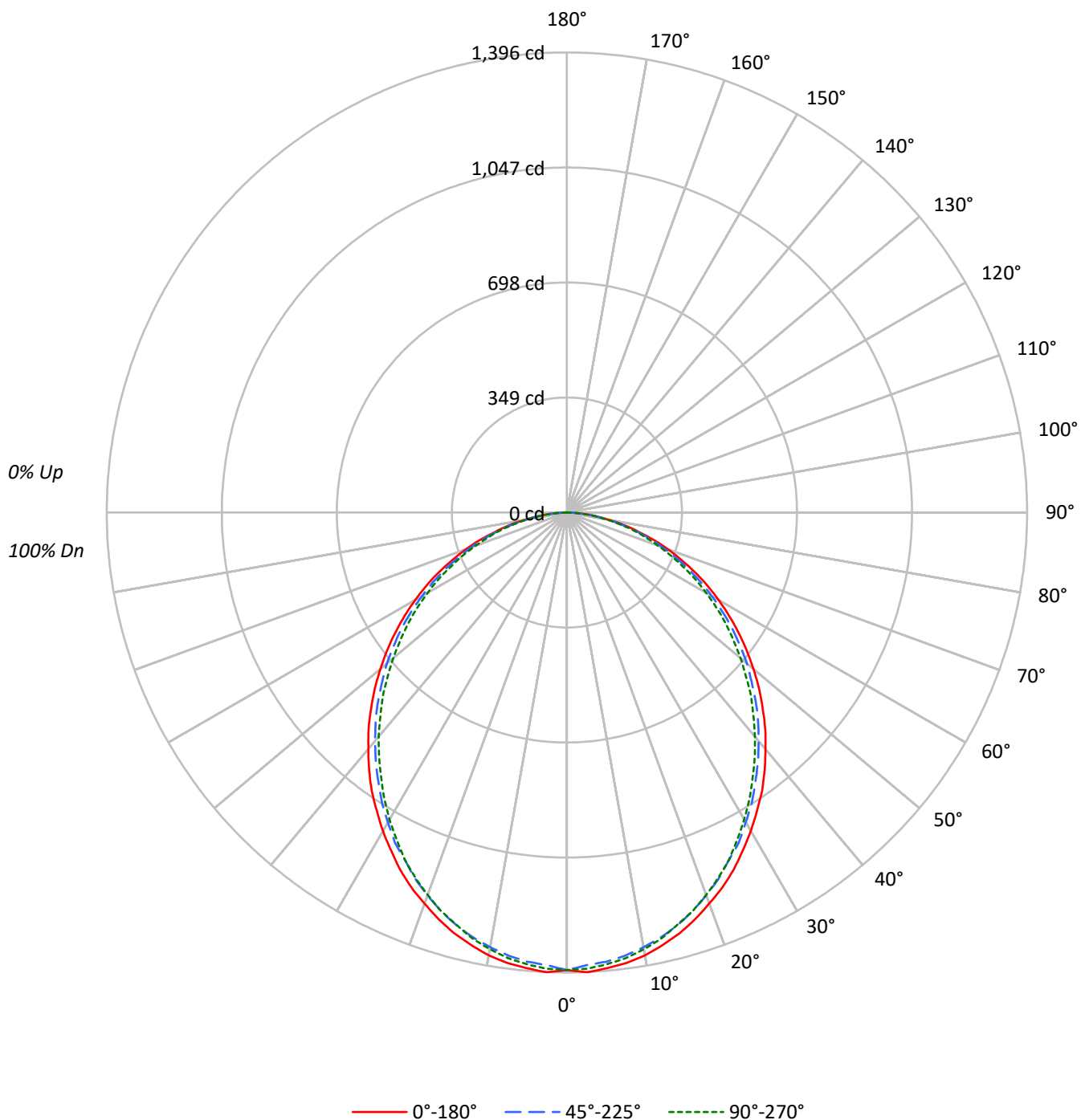
Lumens per Lamp: N/A
Luminaire Lumens: 3532.3 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 43.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
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	30	10	0		
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84		
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71		
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60		
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51		
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45		
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39		
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35		
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31		
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28		
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3476	3476	3476
5°	3490	3439	3460
10°	3469	3405	3422
15°	3426	3360	3357
20°	3365	3294	3291
25°	3305	3213	3213
30°	3227	3138	3111
35°	3155	3049	3003
40°	3063	2958	2902
45°	2974	2869	2799
50°	2876	2777	2678
55°	2775	2670	2570
60°	2661	2541	2447
65°	2539	2413	2302
70°	2385	2258	2150
75°	2169	2079	2028
80°	1925	1866	1771
85°	1572	1497	1342

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2974 cd/sqm

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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	

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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

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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	15.61	17.22	15.98	17.54	17.85	15.17	16.78	15.53	17.09	17.41
	3H	17.36	18.82	17.74	19.14	19.50	16.87	18.33	17.25	18.65	19.01
	4H	18.01	19.38	18.41	19.73	20.10	17.51	18.88	17.91	19.23	19.61
	6H	18.48	19.75	18.89	20.11	20.50	17.98	19.24	18.39	19.61	20.00
	8H	18.62	19.83	19.04	20.22	20.62	18.12	19.33	18.54	19.72	20.12
	12H	18.71	19.87	19.14	20.25	20.68	18.20	19.36	18.63	19.74	20.17
4H	2H	16.17	17.54	16.57	17.89	18.27	15.82	17.19	16.22	17.54	17.91
	3H	18.15	19.29	18.56	19.69	20.09	17.74	18.89	18.15	19.28	19.68
	4H	18.92	19.96	19.36	20.37	20.81	18.50	19.54	18.93	19.95	20.39
	6H	19.52	20.42	19.97	20.87	21.32	19.09	19.99	19.54	20.43	20.89
	8H	19.71	20.56	20.17	21.00	21.46	19.27	20.12	19.73	20.56	21.03
	12H	19.84	20.60	20.32	21.08	21.55	19.39	20.15	19.87	20.62	21.09
8H	4H	19.20	20.04	19.66	20.49	20.95	18.82	19.67	19.28	20.11	20.58
	6H	19.91	20.61	20.40	21.10	21.58	19.53	20.23	20.02	20.72	21.20
	8H	20.17	20.80	20.68	21.31	21.79	19.78	20.41	20.29	20.92	21.40
	12H	20.37	20.93	20.88	21.42	21.98	19.96	20.51	20.46	21.01	21.57
12H	4H	19.22	19.98	19.70	20.46	20.93	18.86	19.62	19.34	20.09	20.56
	6H	19.96	20.59	20.47	21.10	21.58	19.59	20.22	20.10	20.73	21.21
	8H	20.27	20.83	20.78	21.32	21.88	19.89	20.45	20.40	20.94	21.50