

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: P929856

Luminaire Tested: DFN2DS-4P3F0-020DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929856
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-4P3F0-020DS940-RLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

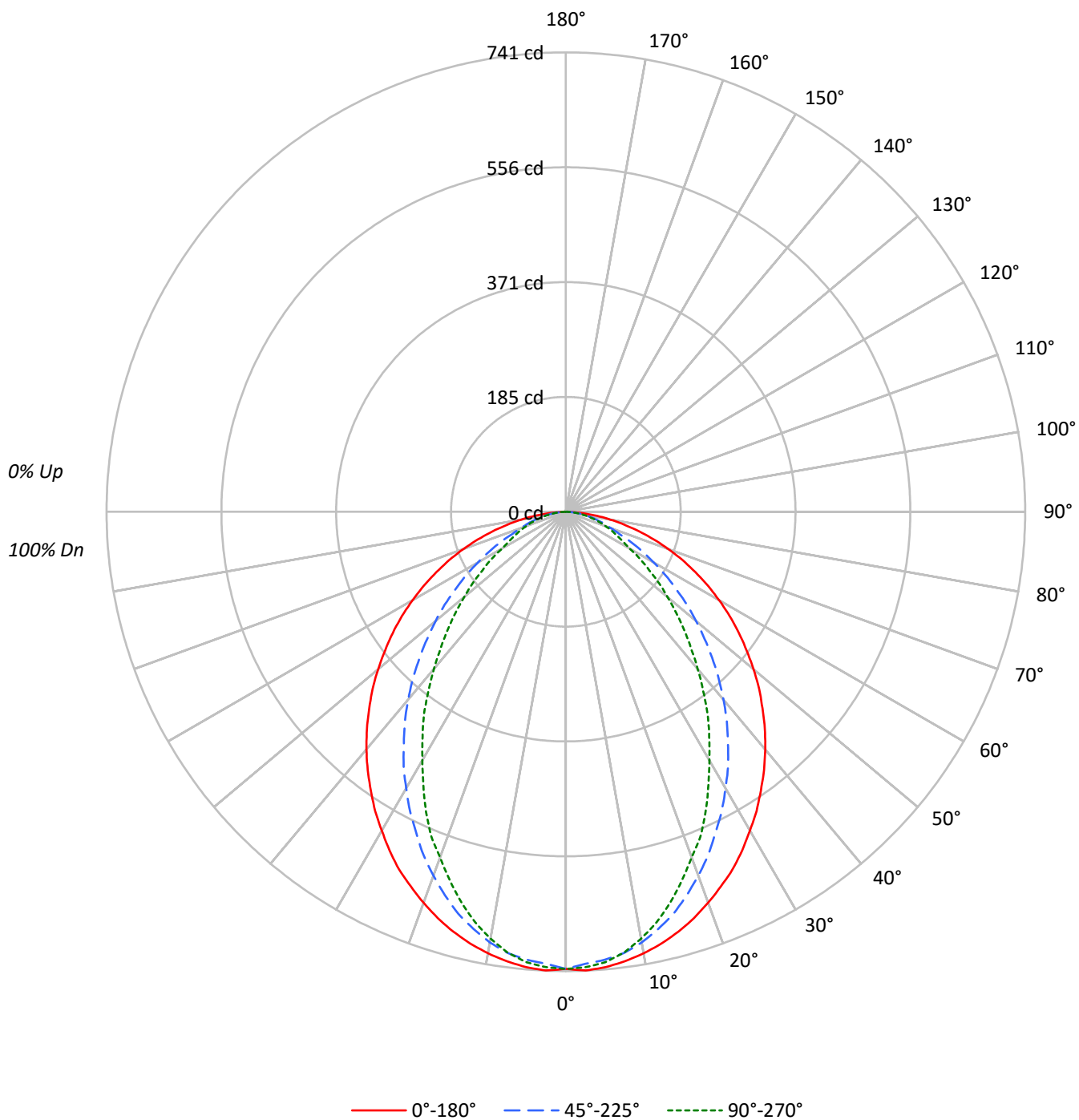
Lumens per Lamp: N/A
Luminaire Lumens: 1516.4 lumens
Efficiency: N/A
Efficacy: 81.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

Input Watts (W): 18.6
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	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°	840	840	840
5°	843	830	834
10°	837	816	809
15°	827	792	769
20°	814	757	719
25°	800	718	671
30°	782	678	609
35°	763	634	555
40°	744	589	492
45°	723	538	435
50°	700	486	380
55°	677	431	326
60°	651	373	271
65°	621	313	246
70°	585	258	227
75°	540	235	212
80°	477	210	192
85°	374	166	166

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 723 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.1	4.6
10°-20°	189.7	12.5
20°-30°	266.3	17.6
30°-40°	290.3	19.1
40°-50°	266.8	17.6
50°-60°	209.6	13.8
60°-70°	136.4	9.0
70°-80°	70.2	4.6
80°-90°	17.9	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°	525.1	34.6
0°-40°	815.5	53.8
0°-60°	1291.9	85.2
0°-90°	1516.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1516.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	737	737	737	737	737	
5°	737	734	725	731	729	70
15°	701	694	671	659	652	198
25°	637	615	571	544	534	293
35°	548	514	456	414	399	343
45°	448	404	334	286	270	346
55°	341	289	217	177	164	305
65°	230	176	116	94	91	228
75°	123	76	53	49	48	130
85°	29	15	13	13	13	34
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	737.3	737.3	737.3	737.3	737.3
2.5°	740.6	737.3	729.9	736.7	735.4
5°	737.3	734.0	725.3	731.4	729.3
7.5°	731.4	727.3	718.0	720.6	717.3
10°	723.3	718.6	705.3	703.3	699.3
12.5°	713.3	707.3	689.2	685.3	677.9
15°	701.3	693.9	671.2	658.6	652.0
17.5°	687.3	676.6	648.6	633.9	623.2
20°	671.2	657.8	624.6	607.9	593.2
22.5°	653.9	638.6	599.9	577.2	567.2
25°	636.6	615.2	571.1	543.9	533.8
27.5°	615.9	593.2	544.5	513.1	497.7
30°	593.9	568.5	515.1	481.1	463.0
32.5°	572.5	541.8	487.1	447.1	430.4
35°	548.5	514.5	455.8	413.7	399.0
37.5°	525.1	488.4	426.4	380.3	363.7
40°	500.4	460.5	395.7	348.3	330.9
42.5°	475.1	432.4	365.0	315.6	299.0
45°	448.4	403.6	333.7	286.2	270.2
47.5°	423.1	375.7	303.6	256.2	241.6
50°	395.1	347.7	274.3	228.2	214.3
52.5°	367.6	317.6	246.2	202.2	189.6
55°	340.9	288.9	216.8	176.9	164.1
57.5°	313.6	260.2	190.9	153.5	142.8
60°	285.6	232.2	163.5	129.5	118.8
62.5°	258.2	204.9	140.1	108.1	102.8
65°	230.2	176.2	116.1	93.5	91.4
67.5°	203.6	149.4	93.5	82.1	80.1
70°	175.5	123.5	77.3	70.7	68.1
72.5°	148.8	99.4	64.7	59.4	58.1
75°	122.7	76.0	53.3	48.7	48.1
77.5°	96.8	54.1	42.0	39.3	38.0
80°	72.7	38.7	32.0	29.3	29.3
82.5°	50.7	26.0	22.0	20.7	20.7
85°	28.6	14.6	12.7	12.7	12.7
87.5°	10.7	5.4	5.4	4.6	4.6
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	10.63	12.15	10.99	12.46	12.78	6.59	8.11	6.96	8.43	8.74
	3H	12.39	13.76	12.77	14.09	14.45	7.86	9.22	8.23	9.55	9.91
	4H	13.06	14.34	13.46	14.69	15.07	8.36	9.64	8.76	9.99	10.37
	6H	13.55	14.73	13.96	15.10	15.49	8.74	9.92	9.15	10.29	10.68
	8H	13.72	14.84	14.14	15.23	15.63	8.86	9.99	9.29	10.38	10.78
	12H	13.82	14.90	14.25	15.28	15.71	8.94	10.02	9.38	10.40	10.83
4H	2H	10.73	12.01	11.13	12.36	12.74	7.29	8.57	7.69	8.92	9.29
	3H	12.67	13.73	13.08	14.13	14.53	8.73	9.79	9.14	10.19	10.59
	4H	13.42	14.37	13.85	14.79	15.23	9.33	10.29	9.76	10.70	11.14
	6H	14.01	14.84	14.47	15.28	15.74	9.82	10.65	10.27	11.09	11.55
	8H	14.22	15.00	14.69	15.44	15.91	9.98	10.76	10.44	11.20	11.67
	12H	14.38	15.07	14.86	15.55	16.02	10.10	10.79	10.58	11.27	11.74
8H	4H	13.44	14.22	13.90	14.66	15.13	9.68	10.46	10.15	10.90	11.37
	6H	14.08	14.72	14.57	15.21	15.69	10.27	10.91	10.76	11.40	11.88
	8H	14.33	14.90	14.84	15.41	15.90	10.49	11.07	11.00	11.57	12.06
	12H	14.53	15.04	15.04	15.53	16.10	10.67	11.18	11.18	11.67	12.24
12H	4H	13.42	14.12	13.91	14.60	15.07	9.73	10.42	10.21	10.90	11.37
	6H	14.06	14.64	14.57	15.15	15.63	10.33	10.91	10.84	11.42	11.91
	8H	14.34	14.85	14.85	15.34	15.91	10.60	11.11	11.11	11.61	12.17