

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: P929843

Luminaire Tested: DFN2DS-4P3F0-020DS835-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929843
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-4P3F0-020DS835-FLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

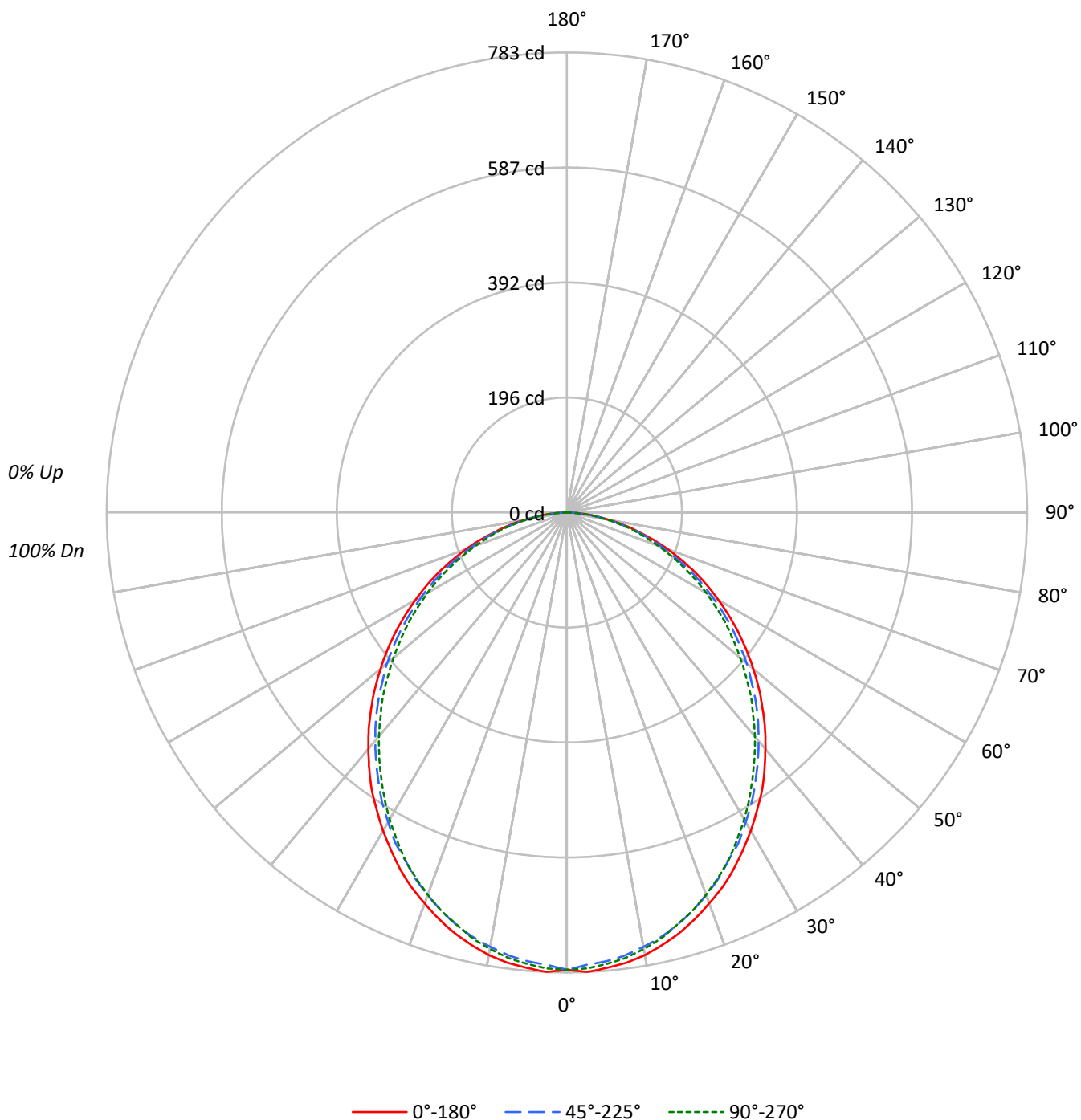
Lumens per Lamp: N/A
Luminaire Lumens: 1980.0 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

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	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°	887	887	887
5°	890	877	883
10°	885	869	873
15°	874	857	856
20°	858	840	839
25°	843	820	820
30°	823	801	794
35°	805	778	766
40°	781	755	740
45°	759	732	714
50°	734	708	683
55°	708	681	656
60°	679	648	624
65°	648	616	587
70°	608	576	549
75°	553	530	517
80°	492	476	452
85°	400	382	343

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 759 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.2	3.7
10°-20°	206.1	10.4
20°-30°	302.9	15.3
30°-40°	351.8	17.8
40°-50°	351.3	17.7
50°-60°	306.3	15.5
60°-70°	226.5	11.4
70°-80°	128.1	6.5
80°-90°	33.8	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°	582.2	29.4
0°-40°	934.0	47.2
0°-60°	1591.6	80.4
0°-90°	1980.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1980.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	778	778	778	778	778	
5°	778	775	767	773	772	74
15°	741	736	727	730	726	209
25°	670	664	652	653	652	309
35°	578	571	559	554	551	361
45°	471	466	454	446	443	363
55°	356	352	343	334	330	318
65°	240	236	228	222	218	238
75°	126	124	120	116	118	134
85°	31	30	29	27	26	36
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	778.2	778.2	778.2	778.2	778.2
2.5°	782.7	779.0	770.7	778.2	776.8
5°	778.2	775.3	767.0	773.0	771.5
7.5°	773.0	768.5	760.3	766.3	764.8
10°	764.8	759.6	750.6	756.5	754.3
12.5°	753.5	749.1	740.1	743.8	742.3
15°	740.8	736.4	726.6	729.6	725.9
17.5°	725.1	720.7	710.9	714.6	710.9
20°	707.9	703.4	692.9	695.2	692.2
22.5°	690.7	684.0	674.2	674.2	672.7
25°	670.5	664.5	651.8	653.2	651.8
27.5°	648.0	642.8	633.1	630.9	627.1
30°	625.6	619.6	608.4	606.2	603.1
32.5°	601.6	597.2	585.2	580.7	577.7
35°	578.5	571.0	559.0	554.5	550.7
37.5°	552.3	545.5	533.5	528.3	524.5
40°	525.3	519.3	507.3	500.7	497.6
42.5°	499.1	493.1	481.2	473.7	469.2
45°	470.7	465.5	454.2	446.0	443.0
47.5°	443.0	437.8	425.8	417.5	413.1
50°	413.8	410.1	399.6	389.1	385.4
52.5°	385.4	380.1	370.4	362.2	357.0
55°	356.2	351.7	342.7	333.8	330.0
57.5°	327.0	323.3	313.5	304.6	301.5
60°	297.8	294.9	284.4	276.1	273.9
62.5°	269.4	264.1	256.7	249.2	246.2
65°	240.2	235.7	228.3	221.5	217.8
67.5°	210.3	206.5	199.8	194.6	191.6
70°	182.6	179.6	172.8	167.6	164.7
72.5°	154.2	151.2	147.4	142.2	140.0
75°	125.7	124.3	120.4	116.0	117.5
77.5°	100.3	97.3	95.7	93.5	91.3
80°	74.9	74.1	72.6	70.3	68.8
82.5°	50.9	50.9	50.2	47.2	47.2
85°	30.6	29.9	29.2	26.9	26.2
87.5°	13.5	12.0	10.5	8.3	7.5
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	10.87	12.48	11.23	12.79	13.10	10.42	12.03	10.79	12.35	12.66
	3H	12.62	14.07	12.99	14.40	14.76	12.12	13.58	12.50	13.91	14.27
	4H	13.26	14.63	13.66	14.98	15.36	12.77	14.14	13.17	14.48	14.86
	6H	13.73	15.00	14.14	15.36	15.76	13.23	14.50	13.64	14.86	15.25
	8H	13.87	15.09	14.30	15.47	15.87	13.37	14.58	13.80	14.97	15.37
	12H	13.96	15.12	14.39	15.51	15.94	13.45	14.61	13.88	14.99	15.42
4H	2H	11.43	12.80	11.82	13.14	13.52	11.07	12.44	11.47	12.79	13.17
	3H	13.40	14.55	13.81	14.95	15.35	12.99	14.14	13.40	14.54	14.94
	4H	14.18	15.21	14.61	15.63	16.06	13.75	14.79	14.19	15.20	15.64
	6H	14.77	15.68	15.23	16.12	16.58	14.34	15.25	14.80	15.69	16.14
	8H	14.96	15.81	15.42	16.25	16.72	14.53	15.37	14.99	15.81	16.28
	12H	15.10	15.86	15.58	16.33	16.80	14.64	15.40	15.12	15.88	16.35
8H	4H	14.45	15.30	14.91	15.74	16.21	14.08	14.92	14.54	15.37	15.83
	6H	15.17	15.87	15.66	16.36	16.83	14.78	15.49	15.28	15.97	16.45
	8H	15.43	16.06	15.93	16.56	17.05	15.03	15.66	15.54	16.17	16.66
	12H	15.62	16.18	16.13	16.67	17.23	15.21	15.77	15.72	16.26	16.82
12H	4H	14.48	15.24	14.96	15.71	16.18	14.11	14.87	14.59	15.35	15.82
	6H	15.21	15.84	15.72	16.35	16.84	14.84	15.47	15.35	15.98	16.47
	8H	15.53	16.08	16.03	16.57	17.13	15.15	15.70	15.65	16.19	16.76