

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: P915257

Luminaire Tested: DFN2DIP-TR2F0-060D030US927-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915257
REPORT IS A COMBINATION OF REPORTS P901759 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-060D030US927-FLLONL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

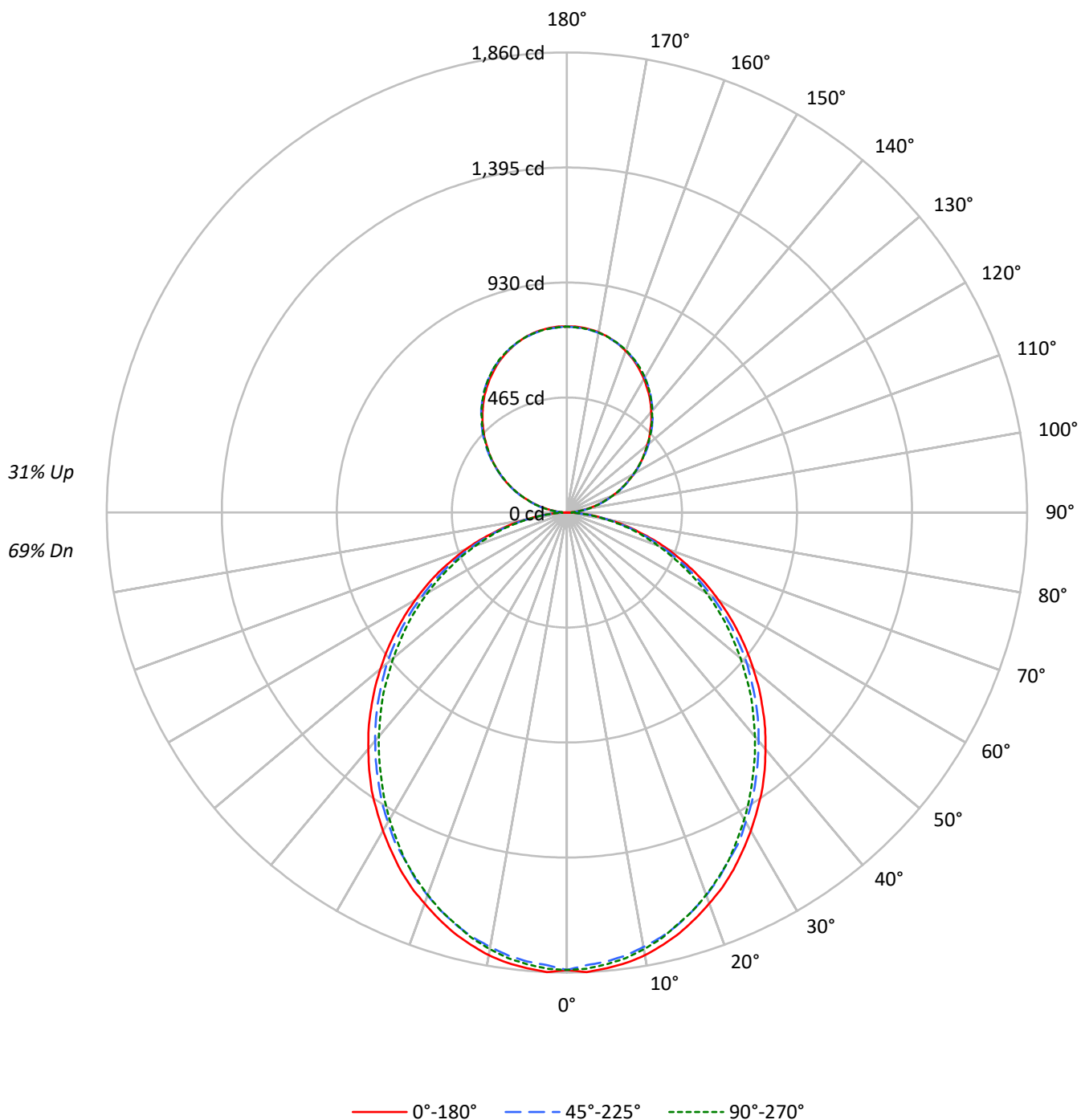
Lumens per Lamp: N/A
Luminaire Lumens: 6808.8 lumens
Efficiency: N/A
Efficacy: 83.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 81.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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
RCR																	
0	112	112	112	112	106	106	106	106	94	94	94	83	83	83	74	74	74
1	102	98	94	90	96	92	89	86	83	80	77	74	71	70	65	64	62
2	93	85	79	74	88	81	75	70	72	68	64	65	61	58	57	55	52
3	85	75	67	61	80	71	64	59	64	58	54	57	53	49	51	48	45
4	78	67	58	52	73	63	56	50	57	51	46	51	46	42	46	42	39
5	71	59	51	45	67	56	49	43	51	45	40	46	41	37	41	37	34
6	66	53	45	39	62	51	43	38	46	40	35	41	36	32	37	33	30
7	61	48	40	34	58	46	39	33	42	36	31	38	33	29	34	30	26
8	57	44	36	31	54	42	35	30	38	32	28	35	29	26	31	27	24
9	53	40	33	27	50	39	31	26	35	29	25	32	27	23	29	25	21
10	50	37	30	25	47	36	29	24	32	27	22	30	25	21	27	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4125	4125	4125
5°	4125	4058	4088
10°	4086	3995	4025
15°	4020	3920	3932
20°	3932	3819	3836
25°	3845	3701	3727
30°	3738	3590	3590
35°	3636	3461	3446
40°	3510	3330	3308
45°	3385	3198	3166
50°	3248	3060	3003
55°	3104	2900	2851
60°	2941	2712	2677
65°	2762	2515	2472
70°	2535	2275	2249
75°	2223	1988	2035
80°	1842	1622	1645
85°	1255	1022	1023

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3385 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.1	2.6
10°-20°	489.8	7.2
20°-30°	719.8	10.6
30°-40°	836.0	12.3
40°-50°	834.9	12.3
50°-60°	728.0	10.7
60°-70°	538.2	7.9
70°-80°	304.5	4.5
80°-90°	82.5	1.2
90°-100°	46.5	0.7
100°-110°	147.8	2.2
110°-120°	252.9	3.7
120°-130°	332.6	4.9
130°-140°	373.3	5.5
140°-150°	366.1	5.4
150°-160°	307.1	4.5
160°-170°	203.7	3.0
170°-180°	71.2	1.0
0°-30°	1383.6	20.3
0°-40°	2219.6	32.6
0°-60°	3782.5	55.6
0°-90°	4707.7	69.1
90°-120°	447.2	6.6
90°-150°	1519.2	22.3
90°-180°	2101.0	30.9
0°-180°	6808.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1849	1849	1849	1849	1849	
5°	1849	1842	1823	1837	1834	176
15°	1760	1750	1727	1734	1725	496
25°	1593	1579	1549	1552	1549	733
35°	1375	1357	1328	1318	1309	858
45°	1119	1106	1079	1060	1053	863
55°	847	836	814	793	784	757
65°	571	560	542	526	518	564
75°	299	295	286	276	279	319
85°	73	71	69	64	62	81
90°	1	8	22	21	22	7
95°	33	40	41	41	40	37
105°	136	138	140	141	141	144
115°	254	257	256	256	254	251
125°	369	375	373	371	370	330
135°	477	484	486	485	483	369
145°	580	584	588	588	586	362
155°	663	665	667	670	668	305
165°	721	720	720	725	722	203
175°	750	748	747	752	748	71
180°	752	752	752	752	752	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1849.4	1849.4	1849.4	1849.4	1849.4
2.5°	1860.2	1851.3	1831.7	1849.4	1846.0
5°	1849.4	1842.5	1822.8	1837.0	1833.6
7.5°	1837.0	1826.5	1806.8	1821.1	1817.6
10°	1817.6	1805.1	1783.8	1797.9	1792.6
12.5°	1790.8	1780.2	1758.9	1767.8	1764.2
15°	1760.5	1750.0	1726.8	1734.0	1725.1
17.5°	1723.2	1712.7	1689.5	1698.3	1689.5
20°	1682.3	1671.7	1646.8	1652.1	1645.1
22.5°	1641.6	1625.5	1602.3	1602.3	1598.7
25°	1593.4	1579.3	1549.0	1552.4	1549.0
27.5°	1540.0	1527.6	1504.5	1499.3	1490.4
30°	1486.8	1472.4	1445.9	1440.6	1433.4
32.5°	1429.8	1419.3	1390.8	1380.0	1372.8
35°	1374.8	1357.0	1328.5	1317.7	1308.8
37.5°	1312.5	1296.4	1268.0	1255.4	1246.6
40°	1248.5	1234.1	1205.7	1189.9	1182.6
42.5°	1186.2	1171.9	1143.6	1125.7	1115.1
45°	1118.7	1106.2	1079.4	1060.0	1052.8
47.5°	1052.8	1040.4	1011.9	992.3	981.7
50°	983.4	974.5	949.7	924.7	915.8
52.5°	915.8	903.4	880.4	860.8	848.3
55°	846.6	835.8	814.5	793.2	784.3
57.5°	777.2	768.3	745.1	723.8	716.6
60°	707.7	700.8	675.9	656.2	650.9
62.5°	640.2	627.7	610.0	592.2	585.1
65°	570.9	560.2	542.5	526.4	517.5
67.5°	499.8	490.8	474.9	462.5	455.3
70°	434.0	426.8	410.7	398.3	391.3
72.5°	366.4	359.3	350.4	337.9	332.6
75°	298.7	295.3	286.2	275.7	279.2
77.5°	238.3	231.2	227.5	222.3	217.0
80°	177.9	176.0	172.5	167.2	163.6
82.5°	121.0	121.0	119.2	112.1	112.1
85°	72.8	71.1	69.4	63.9	62.3
87.5°	32.1	28.5	24.9	19.6	17.7
90°	0.7	8.2	22.2	20.8	21.5
92.5°	14.0	19.0	19.7	20.4	20.4
95°	33.1	39.5	40.6	40.6	39.5
97.5°	55.1	60.9	63.5	63.5	63.5
100°	80.4	85.6	87.5	87.5	86.8
102.5°	107.2	111.1	113.5	114.2	113.5
105°	136.4	138.2	139.6	140.7	140.7
107.5°	165.4	168.1	168.1	168.6	165.4
110°	193.5	197.2	197.2	197.2	195.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	223.9	227.8	227.0	225.2	223.9
115°	253.8	257.4	256.3	255.6	253.8
117.5°	283.4	288.4	285.3	283.4	281.6
120°	313.4	318.4	313.4	313.4	311.3
122.5°	340.6	346.9	343.7	341.9	340.6
125°	369.2	374.8	373.0	370.9	370.3
127.5°	397.0	404.0	401.6	398.8	397.0
130°	423.0	431.2	430.1	428.7	426.2
132.5°	452.3	458.6	459.1	455.9	454.1
135°	477.4	484.4	485.8	485.1	483.3
137.5°	505.5	511.2	512.3	511.9	509.1
140°	530.2	535.9	539.1	539.1	536.5
142.5°	555.6	561.3	563.1	563.8	561.3
145°	579.6	584.2	587.8	588.4	586.0
147.5°	601.2	606.8	609.5	610.7	608.2
150°	623.4	627.2	629.7	631.8	629.7
152.5°	643.1	646.9	650.1	652.6	650.1
155°	662.8	664.6	666.6	669.8	667.8
157.5°	679.8	681.1	682.3	686.8	683.7
160°	695.0	696.3	697.0	700.8	698.1
162.5°	709.0	709.0	709.7	714.0	710.8
165°	721.0	720.3	720.3	724.8	721.7
167.5°	731.9	729.8	729.8	734.4	731.2
170°	740.1	738.2	737.6	742.1	738.2
172.5°	745.7	743.9	743.2	747.7	743.9
175°	750.3	748.5	747.1	751.6	747.7
177.5°	752.7	750.9	749.6	753.4	749.6
180°	751.6	751.6	751.6	751.6	751.6

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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	13.67	14.73	14.44	15.53	16.50	13.25	14.31	14.02	15.11	16.08
	3H	15.32	16.28	16.11	17.08	18.08	14.86	15.82	15.65	16.62	17.62
	4H	15.90	16.81	16.71	17.62	18.63	15.44	16.35	16.25	17.16	18.17
	6H	16.29	17.13	17.11	17.95	18.97	15.83	16.67	16.65	17.49	18.51
	8H	16.40	17.19	17.22	18.03	19.05	15.94	16.73	16.76	17.57	18.60
	12H	16.44	17.20	17.27	18.03	19.08	15.98	16.74	16.81	17.57	18.62
4H	2H	14.15	15.05	14.95	15.86	16.87	13.81	14.71	14.62	15.52	16.53
	3H	16.00	16.76	16.82	17.60	18.63	15.62	16.37	16.44	17.22	18.25
	4H	16.71	17.39	17.54	18.24	19.29	16.31	17.00	17.15	17.84	18.90
	6H	17.21	17.81	18.06	18.68	19.73	16.81	17.41	17.67	18.28	19.34
	8H	17.35	17.91	18.21	18.77	19.85	16.96	17.51	17.81	18.38	19.45
	12H	17.43	17.93	18.30	18.81	19.89	17.02	17.52	17.89	18.41	19.48
8H	4H	16.91	17.46	17.76	18.33	19.40	16.56	17.11	17.41	17.98	19.05
	6H	17.52	17.98	18.40	18.89	19.96	17.17	17.63	18.05	18.54	19.61
	8H	17.73	18.14	18.62	19.04	20.13	17.37	17.78	18.26	18.68	19.77
	12H	17.85	18.21	18.75	19.11	20.25	17.48	17.84	18.38	18.74	19.88
12H	4H	16.90	17.40	17.78	18.29	19.36	16.56	17.06	17.43	17.94	19.02
	6H	17.55	17.96	18.44	18.86	19.95	17.21	17.62	18.10	18.52	19.60
	8H	17.78	18.14	18.68	19.04	20.18	17.44	17.80	18.33	18.69	19.83