

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: P907071

Luminaire Tested: DFN2DIP-TR2F0-060D020US835-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907071
REPORT IS A COMBINATION OF REPORTS P901750 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-060D020US835-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

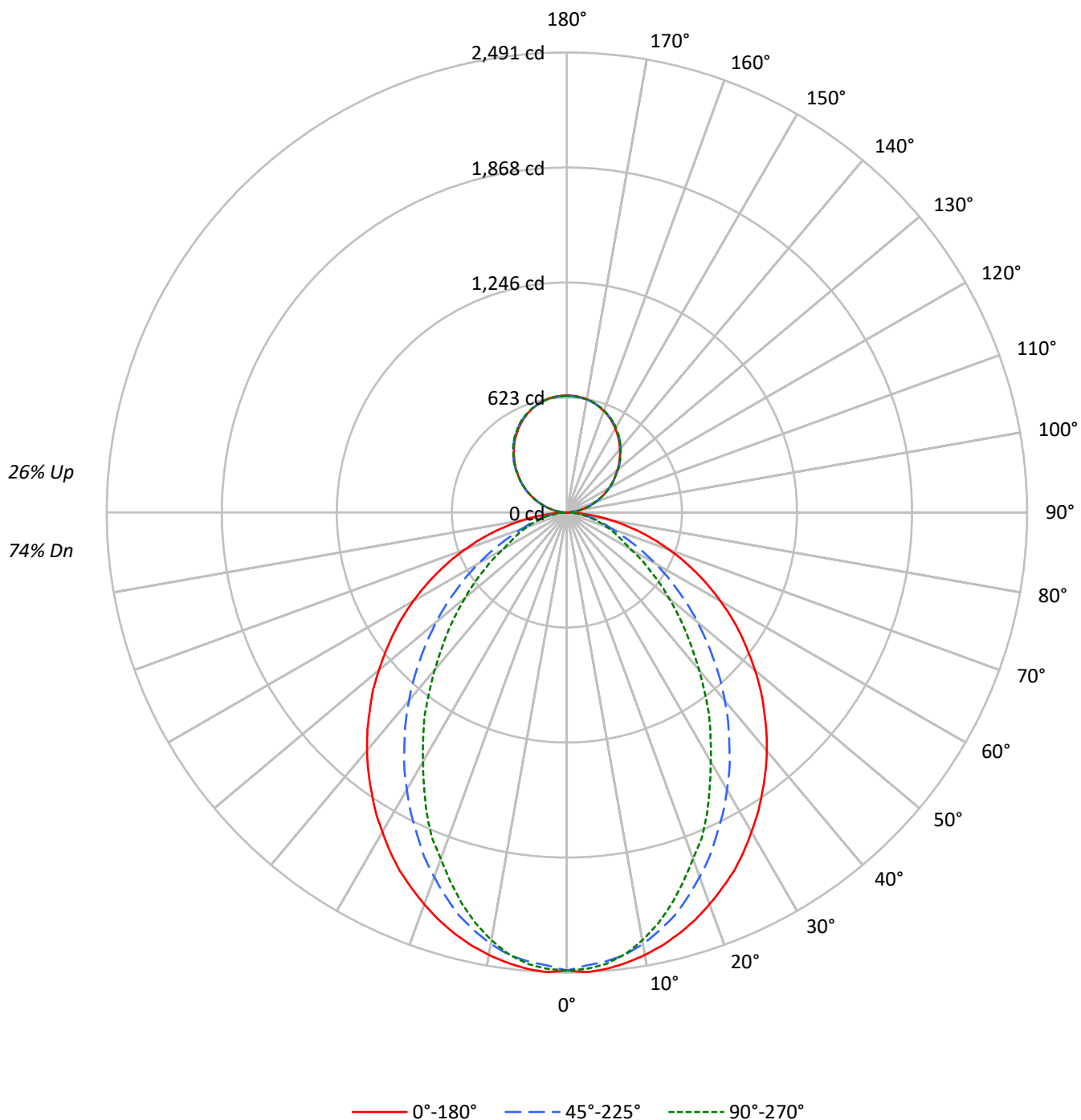
Lumens per Lamp: N/A
Luminaire Lumens: 6870.0 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 74.7
Input Voltage (V):
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	113	113	113	113	107	107	107	107	97	97	97	87	87	87	78	78	78
1	104	100	96	93	99	95	92	89	86	84	81	78	76	74	70	69	68
2	95	88	82	77	90	84	79	74	76	72	68	69	66	63	63	60	58
3	87	78	71	65	83	75	68	63	68	63	58	62	58	54	56	53	50
4	80	70	62	56	76	67	60	54	61	55	51	56	51	47	51	47	44
5	74	63	54	48	70	60	53	47	55	49	44	51	45	42	46	42	39
6	69	57	48	43	65	54	47	41	50	44	39	46	41	37	42	38	35
7	64	51	43	38	61	49	42	37	46	39	35	42	37	33	39	34	31
8	59	47	39	34	57	45	38	33	42	36	31	39	34	30	36	31	28
9	56	43	36	31	53	42	35	30	39	33	28	36	31	27	33	29	26
10	52	40	33	28	50	39	32	27	36	30	26	33	28	25	31	27	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5531	5531	5531
5°	5532	5431	5469
10°	5469	5312	5281
15°	5385	5124	4997
20°	5277	4871	4652
25°	5167	4589	4320
30°	5021	4301	3901
35°	4878	3993	3533
40°	4732	3675	3113
45°	4564	3325	2733
50°	4389	2972	2362
55°	4205	2597	2007
60°	3992	2206	1643
65°	3746	1810	1468
70°	3448	1441	1315
75°	3073	1247	1178
80°	2532	1012	993
85°	1662	627	699

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 4564 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.4	3.4
10°-20°	638.0	9.3
20°-30°	895.7	13.0
30°-40°	976.4	14.2
40°-50°	897.4	13.1
50°-60°	704.8	10.3
60°-70°	458.8	6.7
70°-80°	236.1	3.4
80°-90°	62.1	0.9
90°-100°	39.1	0.6
100°-110°	124.4	1.8
110°-120°	212.8	3.1
120°-130°	279.9	4.1
130°-140°	314.2	4.6
140°-150°	308.1	4.5
150°-160°	258.4	3.8
160°-170°	171.4	2.5
170°-180°	59.9	0.9
0°-30°	1766.2	25.7
0°-40°	2742.6	39.9
0°-60°	4344.8	63.2
0°-90°	5101.8	74.3
90°-120°	376.3	5.5
90°-150°	1278.5	18.6
90°-180°	1768.0	25.7
0°-180°	6870.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2480	2480	2480	2480	2480	
5°	2480	2469	2439	2460	2453	235
15°	2359	2334	2258	2215	2193	665
25°	2141	2069	1921	1829	1795	985
35°	1845	1730	1533	1391	1342	1155
45°	1508	1358	1122	963	909	1165
55°	1147	972	729	595	552	1025
65°	774	592	390	314	307	768
75°	413	256	180	164	162	437
85°	96	49	43	43	43	111
90°	1	7	19	18	18	7
95°	28	33	34	34	33	31
105°	115	116	118	118	118	121
115°	214	217	216	215	214	211
125°	311	315	314	312	312	278
135°	402	408	409	408	407	311
145°	488	492	495	495	493	305
155°	558	559	561	564	562	257
165°	607	606	606	610	607	171
175°	631	630	629	632	629	60
180°	632	632	632	632	632	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2479.8	2479.8	2479.8	2479.8	2479.8
2.5°	2491.0	2479.8	2455.0	2477.6	2473.1
5°	2479.8	2468.6	2439.3	2459.6	2452.9
7.5°	2459.6	2446.2	2414.8	2423.6	2412.4
10°	2432.6	2416.9	2372.2	2365.3	2351.9
12.5°	2399.1	2378.8	2318.1	2304.8	2280.0
15°	2358.6	2333.8	2257.6	2215.0	2192.6
17.5°	2311.5	2275.5	2181.2	2131.9	2096.0
20°	2257.6	2212.6	2100.5	2044.5	1995.0
22.5°	2199.3	2147.6	2017.4	1941.2	1907.6
25°	2141.0	2069.1	1921.0	1829.1	1795.3
27.5°	2071.5	1995.0	1831.2	1725.7	1674.1
30°	1997.4	1911.9	1732.4	1618.1	1557.4
32.5°	1925.5	1822.2	1638.4	1503.6	1447.4
35°	1844.8	1730.3	1532.9	1391.4	1341.9
37.5°	1766.2	1642.6	1434.1	1279.1	1223.1
40°	1683.1	1548.6	1330.7	1171.4	1113.1
42.5°	1597.9	1454.3	1227.6	1061.4	1005.5
45°	1508.1	1357.6	1122.2	962.6	908.8
47.5°	1422.9	1263.6	1021.2	861.7	812.4
50°	1328.6	1169.3	922.4	767.4	720.5
52.5°	1236.4	1068.1	828.1	680.0	637.4
55°	1146.7	971.7	729.3	594.8	552.1
57.5°	1054.8	875.2	641.9	516.2	480.2
60°	960.5	781.0	549.8	435.5	399.5
62.5°	868.6	689.1	471.2	363.6	345.7
65°	774.3	592.4	390.5	314.3	307.4
67.5°	684.5	502.6	314.3	276.0	269.3
70°	590.2	415.2	260.2	237.9	228.8
72.5°	500.5	334.3	217.6	199.8	195.2
75°	412.9	255.7	179.5	163.8	161.7
77.5°	325.5	181.7	141.4	132.4	127.9
80°	244.5	130.2	107.6	98.8	98.8
82.5°	170.5	87.6	74.0	69.5	69.5
85°	96.4	49.3	42.6	42.6	42.6
87.5°	36.0	17.9	17.9	15.7	15.7
90°	0.6	6.9	18.7	17.5	18.1
92.5°	11.8	16.0	16.6	17.2	17.2
95°	27.8	33.2	34.1	34.1	33.2
97.5°	46.3	51.3	53.4	53.4	53.4
100°	67.7	72.1	73.6	73.6	73.0
102.5°	90.2	93.4	95.5	96.1	95.5
105°	114.8	116.3	117.5	118.4	118.4
107.5°	139.2	141.5	141.5	141.9	139.2
110°	162.9	165.9	165.9	165.9	164.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	188.4	191.6	191.1	189.5	188.4
115°	213.6	216.6	215.7	215.1	213.6
117.5°	238.6	242.8	240.1	238.6	237.0
120°	263.7	267.9	263.7	263.7	262.0
122.5°	286.6	291.9	289.3	287.8	286.6
125°	310.6	315.4	313.9	312.2	311.6
127.5°	334.1	340.0	337.9	335.6	334.1
130°	356.0	362.9	361.9	360.8	358.7
132.5°	380.6	386.0	386.3	383.7	382.1
135°	401.8	407.7	408.8	408.3	406.7
137.5°	425.4	430.2	431.2	430.8	428.5
140°	446.2	451.0	453.7	453.7	451.6
142.5°	467.6	472.3	473.9	474.4	472.3
145°	487.8	491.6	494.7	495.2	493.1
147.5°	505.9	510.7	513.0	513.9	511.8
150°	524.6	527.8	529.9	531.6	529.9
152.5°	541.2	544.4	547.1	549.2	547.1
155°	557.8	559.3	561.0	563.7	562.0
157.5°	572.1	573.2	574.2	578.0	575.3
160°	584.9	586.0	586.6	589.8	587.5
162.5°	596.7	596.7	597.2	600.9	598.2
165°	606.8	606.2	606.2	610.0	607.4
167.5°	615.9	614.2	614.2	618.0	615.4
170°	622.8	621.3	620.7	624.5	621.3
172.5°	627.6	626.0	625.5	629.3	626.0
175°	631.4	629.9	628.7	632.5	629.3
177.5°	633.5	632.0	630.8	634.0	630.8
180°	632.5	632.5	632.5	632.5	632.5

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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	14.98	16.06	15.70	16.80	17.68	10.96	12.04	11.69	12.78	13.66
	3H	16.65	17.62	17.39	18.37	19.28	12.15	13.12	12.89	13.87	14.78
	4H	17.26	18.16	18.01	18.92	19.85	12.61	13.51	13.36	14.27	15.20
	6H	17.67	18.51	18.44	19.28	20.21	12.92	13.76	13.69	14.53	15.47
	8H	17.79	18.59	18.57	19.38	20.32	13.01	13.81	13.79	14.60	15.54
	12H	17.85	18.61	18.64	19.39	20.36	13.06	13.82	13.84	14.60	15.56
4H	2H	15.02	15.93	15.78	16.69	17.62	11.57	12.48	12.33	13.24	14.17
	3H	16.85	17.60	17.62	18.40	19.34	12.93	13.68	13.70	14.48	15.42
	4H	17.53	18.22	18.32	19.01	19.98	13.47	14.16	14.26	14.95	15.92
	6H	18.04	18.63	18.84	19.45	20.42	13.89	14.48	14.69	15.30	16.27
	8H	18.21	18.76	19.01	19.57	20.56	14.01	14.56	14.82	15.38	16.37
	12H	18.30	18.79	19.13	19.63	20.62	14.08	14.57	14.91	15.41	16.40
8H	4H	17.51	18.07	18.32	18.88	19.87	13.76	14.31	14.56	15.12	16.11
	6H	18.06	18.52	18.90	19.38	20.37	14.26	14.72	15.10	15.57	16.56
	8H	18.27	18.67	19.11	19.53	20.53	14.44	14.85	15.29	15.70	16.71
	12H	18.40	18.76	19.25	19.60	20.66	14.56	14.91	15.41	15.76	16.82
12H	4H	17.48	17.97	18.30	18.81	19.80	13.77	14.26	14.60	15.10	16.09
	6H	18.04	18.44	18.89	19.30	20.30	14.31	14.71	15.15	15.57	16.57
	8H	18.25	18.61	19.10	19.45	20.52	14.51	14.87	15.36	15.71	16.78